

Municipal Journal

Volume XLI.

NEW YORK, JULY 27, 1916

No. 4

SELECTION AND PLACING OF STREET-NAME SIGNS*

Size and Style of Letters—Color, Location and Number of Signs, and Height Above Street—Construction, Durability and Cost—Wood, Glass and Metal Signs—Matter on Signs.

The ideal street-name sign should possess the qualities of legibility, durability, attractive appearance, and low cost.

LEGIBILITY.

Five important factors of legibility are size of letters, style of letters, colors of letters and of background, location of sign, and illumination at night.

Size.—The letters are commonly between 2 and 4 inches in height, although they are found 5 to 8 inches high. Three inches is apparently the standard for enameled iron signs, and probably none smaller should be used.

Style.—Block letters are easily read, owing chiefly to the fact that all parts of the letter are of uniform width and therefore visible to a uniform distance. Most enameled iron signs are made with straight strokes and angles substituted for the curved outlines of certain letters, which produce letters less legible than if the curved forms were retained. The spacing of the letters is important; if crowded too closely the name is not read easily, especially from a moving car, and if not uniformly spaced the appearance is not satisfactory.

Color.—Maximum legibility requires strongly contrasting color combinations. Black letters on a white background are common, but more popular at present is a white letter on a ground of royal or ultramarine blue, most of the enameled iron signs being in these colors. The latter combination is more attractive in appearance than black and white and is very legible by day or night. Silver gray or aluminum on black is particularly effective, especially after dark. Gilt or gold-leaf letters on black, used on wooden signs in Boston is dignified and effective. Red is seldom used, although Washington, D. C., uses clear glass letters blown in a ruby glass plate, and in several northern New Jersey towns ruby letters are blown in a clear glass background. Washington also uses a cast aluminum sign painted slate-gray with letters outlined in gold leaf. Aluminum letters on black enameled steel are used in Rochester, N. Y., and zinc on black lacquered plates in Fall River, Mass. San Francisco uses white letters on brown-enameled plates. Aluminum bronze letters on a green background are used in Minneapolis.

Location.—Plates or signs are quite commonly fastened to the corners of buildings that are on or near street intersections, which is simple and economical but open to several objections. For example, permis-

sion of the property owner is necessary but can not always be obtained; and, much more serious, it is frequently necessary to place the signs so far back from the street that it is difficult to read them, especially at night. Also uniformity of location, highly desirable for appearance and to insure ready finding of the sign, is difficult to secure with signs so placed. In general this plan has proved unsatisfactory except in well built-up business districts, and even in these it is questionable if these wall plates are of any appreciable value to other than pedestrian traffic, or even to these when partially concealed by awnings, decorations, advertising signs, etc.

The most common practice appears to be to place street-name signs on posts or poles located near the curb line at street intersections, where they seem to serve best all types of street traffic. They may be placed on special standards, or on existing poles which carry wires. Since adding to existing obstructions in streets is properly objected to, there is argument for the almost universal practice of placing street-name signs on trolley, telegraph and light poles, where there are such at the corners. Some cities, however, erect special standards throughout the residential districts, thus securing a better appearance and desirable uniformity.

Experience has demonstrated that double-faced signs should be placed one above the other for easy reading, for when on the same level, one sign obstructs the view of the other from certain angles.

Throughout the business district of Chicago and the entire city of Memphis, and in some other cities, the street names are stenciled directly on poles near the street intersections, the letters being arranged vertically, white letters on black poles being customary. In Memphis the plan is found inexpensive, repainting being required about once in two years.

Number of Signs.—When placed on posts, it is exceptional to find these signs at all four corners of an intersection, unless the streets are very wide. Toledo, O., uses two sign posts at each intersection, except in the business district, where they are placed on buildings at each of the four corners of an intersection. Oakland generally places two at an intersection, on diagonally opposite corners; and this seems to be almost universally considered sufficient. Indeed, on minor residential streets it would hardly seem necessary, or even desirable, to use more than one set of signs if they were well placed and legible from across the street. On the other hand, the congested traffic conditions of the business streets of our larger cities frequently warrant the use of four sets of signs.

Height of Placing.—The minimum height of sign from street surface reported was 7 feet, the maximum was 12 feet, and 8 to 10 feet seemed to be the average. The

*The following is a synopsis of a bulletin prepared by Roland S. Wallis, of Iowa State College, and published by the Engineering Extension Department of that institution a few weeks ago. We are indebted to Mr. Wallis and the department for permission to use this information and for the original drawings from which to prepare the illustrations.

lower figures generally refer to signs on independent standards in residence districts; the higher, to signs on available trolley and other poles. The greater height is perhaps preferable where there is considerable roadway traffic; the lower, for residence sections, although boys are tempted to jump and hang from those less than 8 feet high.

Sidewalk Signs.—Several cities have placed street names on sidewalks near the curb at the intersection, on the top or face of the curb, and on gutter plates. These can not be read from cars or other vehicles, where there are many pedestrians, or when there is snow on the sidewalks. In some cities brass or cast iron name plates are set in the sidewalk flush with the surface; in others, tile or composition letters of contrasting color are set into the concrete when it is laid, or the letters are stamped into the green concrete with brass dies. Fremont, Neb., uses cast iron gutter plates with the name cast in the surface. A few cities paint the name on the face of the curb.

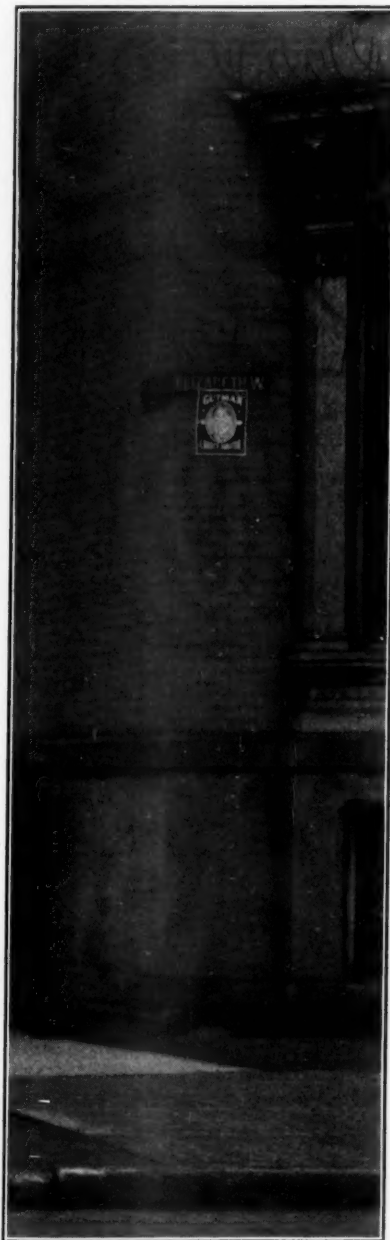
Illumination at Night.—This has been effected by using transparent, translucent, or perforated signs of various types, supported in metal frames or brackets around street lamps. With cluster incandescent electroliers the signs are usually placed around the central globe. An inexpensive and fairly common practice is to paint the street names directly on the face of the globe. In some cases the name is blown into the glass. On the more important corners of Washington, D. C., a lantern is used with sides of ground glass on which the name is painted in black, inside which a small gas or electric lamp is placed.

CONSTRUCTION, DURABILITY COST.

Strictly speaking, there is no ideal material for street-name signs. Wood is quite commonly used for both sign and support, although enameled iron is extensively taking its place for the sign. If properly erected, wood signs are fairly durable, but most paints used on them fade rapidly and render legibility and appearance unsatisfactory. Wooden signs should not be fastened to round poles without gaining out the pole, otherwise they may acquire a tilted position. Cambridge, Mass., uses pine boards 8 in. wide framed with a pine moulding, painted black with lettering in gold-leaf, costing \$1.50 each. Oakland, Cal., uses a redwood sign 4 in. wide by 20 to 22 in. long and $\frac{3}{4}$ in. thick, the name being in white painted on a dark blue sanded background, attached by brackets to wooden poles where they are available. The signs cost 20 cents each, painted, and the brackets 72 cents. They are "kept in good condition by repainting every four or five years at a cost of 12½ cents for repainting, to which must be added the cost of taking down and replacing." Boston, Mass., uses wooden signs, with

gilt letters on a black background, most of them lettered on both sides except in the case of "box" signs—four signs surrounding a post. Wood is quite commonly used for the backing of enameled iron signs. Spokane, Wash., and Los Angeles, Cal., use a square wooden post with the names of the streets painted vertically on the four sides, which are fairly well adapted to use on minor streets, drives, etc.

Glass is quite widely used because its transparency facilitates reading by night. The names are generally painted on but are sometimes blown in. In square lanterns the glass signs may form the sides, as already described, or may be inserted in the form of strips of glass. For use on round "boulevard" globes, four curved quarter-circles of glass are held in a frame around the lamp. These, with the names painted



STREET SIGN ON HOUSE.



SIGN ON "ANY OLD POST."

on, cost 25 cents each in New Haven, Conn. Owing to the fragility and high cost, glass signs are seldom satisfactory in outlying districts, where boys are apt to break them mischievously. Porcelain plates with the letters burnt in have been used like glass, and are claimed to be more durable, more distinct by day, and neater in appearance.

Sheet Metal signs are made of iron or soft steel, zinc, tin and aluminum. Iron or steel is the most common, generally of 16 or 18-gauge thickness. It is either painted or enameled to prevent rusting. The painted signs are durable and reasonably satisfactory if first-

class pigments are used to prevent rapid fading, and if repainted at regular intervals. New Haven uses a plate suspended from a bracket, painted with black letters on a white background, costing 75 cents each. Portland, Oregon, paints its own signs on sheet iron, as described in *Municipal Journal* for October 28th, 1915.

Enameled iron signs, are used by probably the majority of cities. They are neat in appearance, and very durable if not abused. Good vitreous enamels carefully applied, each coat being fused or baked on at high temperature, are essential if a satisfactory degree of permanence is to be obtained. Some cheap signs fade, tarnish, chip or peel; but a good one should last easily for five to ten years satisfactory in legibility and appearance. Reliable manufacturers usually guarantee their signs for ten years against the defects mentioned. Any appreciable bending of the sign breaks the enameled surface, so best results are obtained by backing them with wood or in some other way preventing bending. Single-faced enamel signs of standard width and quality range in price from 25 to 35 cents each, depending principally on the quantity purchased. Double-faced signs (lettered on both sides) cost 60 per cent to 80 per cent more; but instead of using these, it is more common to fasten two plates together back to back with the standard between them.

The most serious objection to enameled iron signs is their liability to crack or chip when struck by stones.

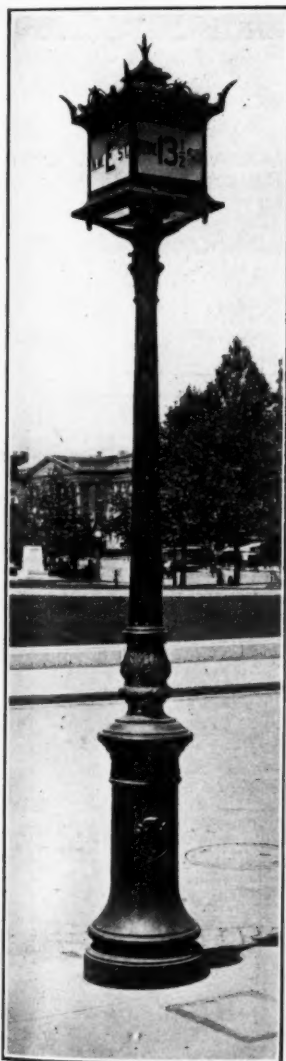
Also some trouble is experienced in fastening the signs in place, the pressure applied by the holding screws

frequently chipping the enamel; to avoid which, leather, fiber or rubber washers should be used under the screw heads and round-headed screws used. Nails should not be used. Chicago requires the screw holes to be "cushioned with brass eyelets."

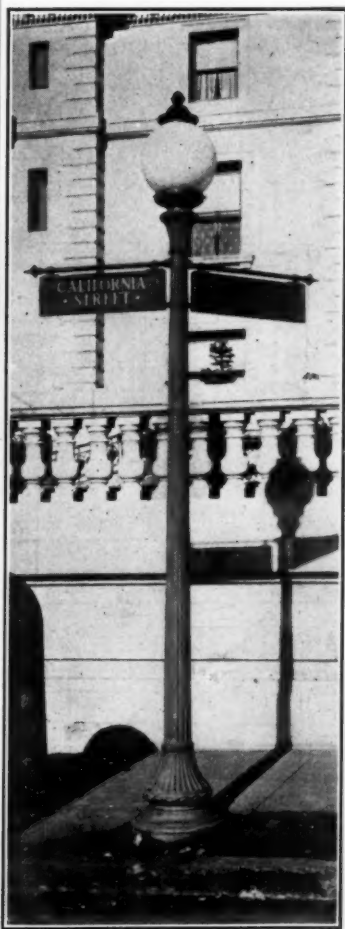
Colorado Springs uses gray galvanized letters fastened to a black-painted metal plate 5 inches wide, which is bolted to a 2½-inch gas pipe set in a block of concrete one foot square and two feet deep. Other cities use letters cut from sheet zinc, tacked to black-painted wooden strips, or brazed, melted or wired to lacquered or painted metal plates. Washington uses black-japanned zinc strips with gilt letters. Rochester uses a black-enameled steel plate carrying 3-inch aluminum letters riveted on, costing 50 cents each. Another plan is to weld 3-inch block letters, die-cut from sheet iron, to a heavy 14-gauge iron plate, the background being coated with black bicycle enamel baked for three hours at 460° F., and the letters being coated with a bright aluminum bronze, the cost being 5 cents per letter. Another type is made by outlining the letters by drilling overlapping holes into a soft steel plate, the holes being filled with a white composition left depressed below the surface of the plate. The background can be painted without removing the sign from its position by passing a special roller over the surface.

Cast iron plates fastened to buildings are little used, but some cities support them on poles. Minneapolis employs the latter method, the names being cast in raised letters on both sides of the sign, the sign being painted green and the letters then coated with aluminum bronze; these costing \$3.58 each. Buffalo uses a cast iron frame 12 in. square carrying four cast iron name plates with 2-in. letters, supported by a post built up of 3-in. and 2-in. wrought iron. In Providence is found a cast iron box sign with interchangeable name plates on all four sides carrying blue letters on a white ground, costing \$8 each complete. New York's latest sign consists of a two-piece cast iron frame riveted together with a double-faced enameled iron sign between the parts, there being two frames or wings to the sign, set at about right angles to each other; the same sign being also made in rolled steel.

The cast iron signs cost \$5.75 to \$6.91 each, erected; the steel frames \$5.00, furnished



LANTERN TYPE OF SIGNS USED IN WASHINGTON, D. C.



CAST ALUMINUM SIGN PLATES WITH RAISED LETTERS. Gold-leaf letters on slate-gray background.



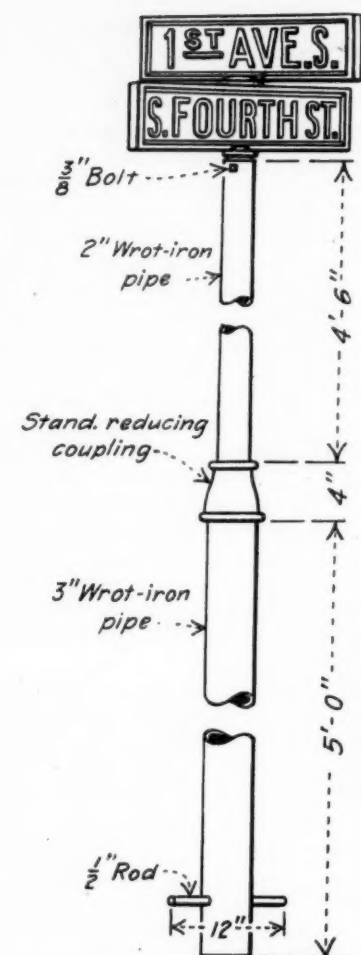
A CHICAGO STANDARD ARRANGEMENT. Two pairs of blue and white enameled iron signs, back to back.



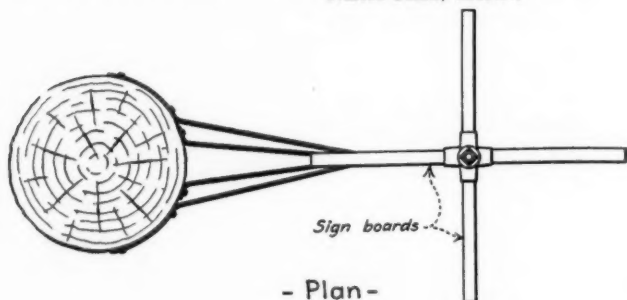
BROWN ENAMELED PLATES WITH WHITE LETTERS IN BRONZE FRAME, SAN FRANCISCO.



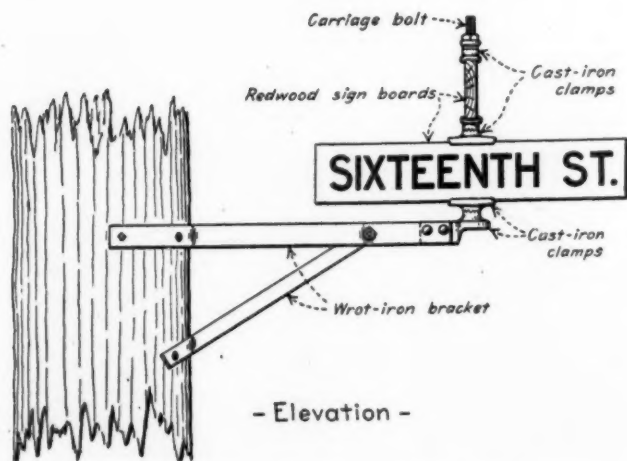
SQUARE WOODEN POST, PAINTED WHITE WITH BLACK LETTERING.



DOUBLE-FACED CAST IRON SIGNS THAT CAN BE CLAMPED AT ANY ANGLE. GREEN WITH WHITE LETTERS. MINNEAPOLIS, MINN.



- Plan -

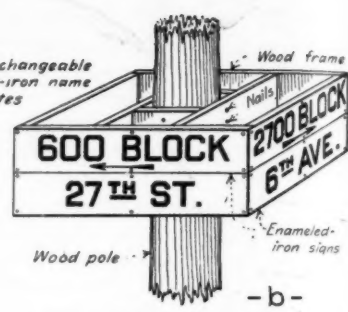


- Elevation -

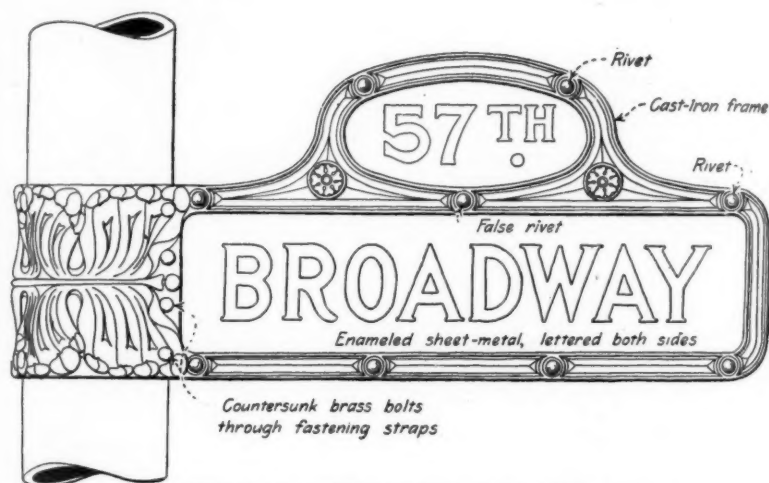
WOODEN SIGNS WITH BRACKET, OAKLAND, CAL. WHITE LETTERS ON BLUE SANDED BACKGROUND.



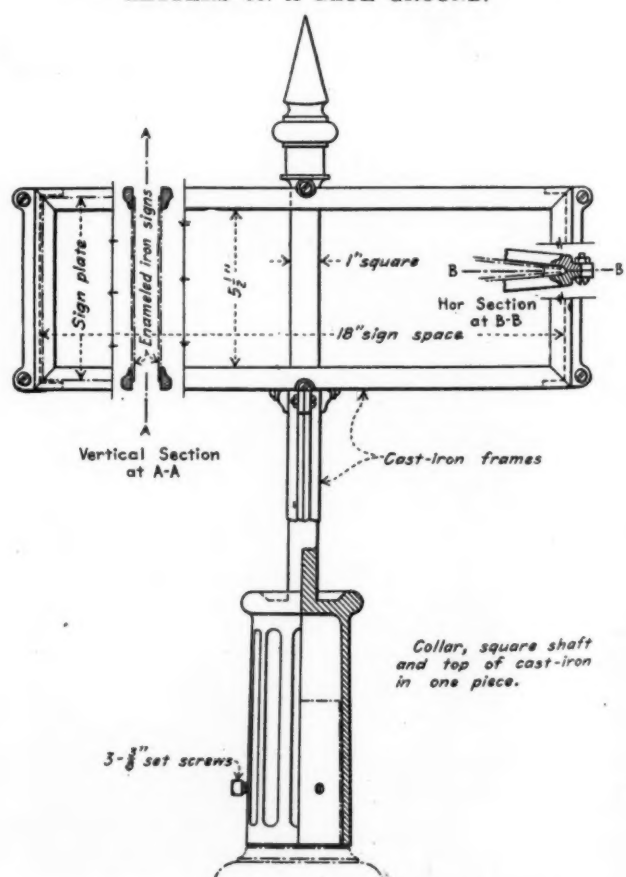
(a) CAST IRON BOX SIGN; BLUE LETTERS ON WHITE GROUND, PROVIDENCE, R. I.



(b) WOODEN BOX SIGN, CARRYING FOUR SETS OF ENAMELED IRON SIGNS, SYRACUSE, N. Y.



ONE WING OF NEW YORK'S STANDARD SIGN. WHITE LETTERS ON A BLUE GROUND.



CAST-IRON FRAME TO HOLD FOUR ENAMELED IRON SIGNS, WASHINGTON, D. C.

only, and the enameled signs 77 cents. Cast iron is used in a number of cities for caps for fastening the signs to the standards. Denver's cast bronze plates screwed to iron trolley poles was described in *Municipal Journal* for March 22, 1911.

Cement Concrete signs are comparatively novel. The Department of Public Works of Pittsburgh has recently designed and installed two very interesting and artistic types of street-name signs in which not only the post, but the sign-board as well, is of granite-finished concrete. The sign plates are separate from the post, being so constructed that they swing about a vertical axis and are clamped at any desired angle. These signs and posts are well reinforced with steel wire and rods. The letters, of a black cement composition of permanent color, the exact make-up of which has not been made public by the manufacturer, are about $\frac{3}{8}$ -inch thick and dovetailed securely into the concrete of the background. A street-name plate has been designed by the same manufacturer for erection on buildings. Wall plates of this description can be obtained for \$1.00 each, in moderate quantities, while standards and signs similar to those erected in Pittsburgh may be obtained for \$15.00 each.

Standards. In many cities the standards used for signs consist simply of iron pipe in sizes of three inches and smaller, two or more sizes joined with reducing couplings being used for each standard. A neater appearing result may be obtained by the use of tapering galvanized-steel posts, these being obtainable in lengths up to 11 feet and costing, for this length, from about 60 cents each to about \$1.80 each, depending on the

diameter and weight of the post. An economical post, often used where available, consists simply of lengths of second-hand boiler tubes.

Experience seems to show that the sign standards are frequently planted in the ground to an insufficient depth. A minimum depth of 3 feet is suggested, while undoubtedly 4 feet—as specified in Columbus for 4x4 wood posts—would be better. Small posts of pipe or cast-iron are best set in concrete, a depth of 2 to 3 feet being sufficient ordinarily, with 6 or 8 inches of concrete on each side of the post. Common practice provides an iron pin through the buried portion of the post, or some similar device, to prevent its turning.

All brackets and supports for signs that are to be attached to public-service poles of various sorts should be strong enough to permit the linemen, who must climb these poles at times, to stand on the supports, as they are very apt to do this even though it may not be strictly necessary.

MATTER ON THE SIGN.

The traffic that proceeds along a street is interested particularly in recognizing readily the names of the intersecting streets crossed rather than that of the street being traversed. Street-name signs, then, should give prominence to the names of these side or cross streets. Placing the signs parallel to the streets designated, as is commonly done, accomplishes this reasonably well, although the objection is often made that such signs are hard to read from trolley cars. If, as has been suggested, the cross street name sign is placed parallel with the street traversed, the result is apt to prove confusing; and the plan is, for this reason, seldom followed.

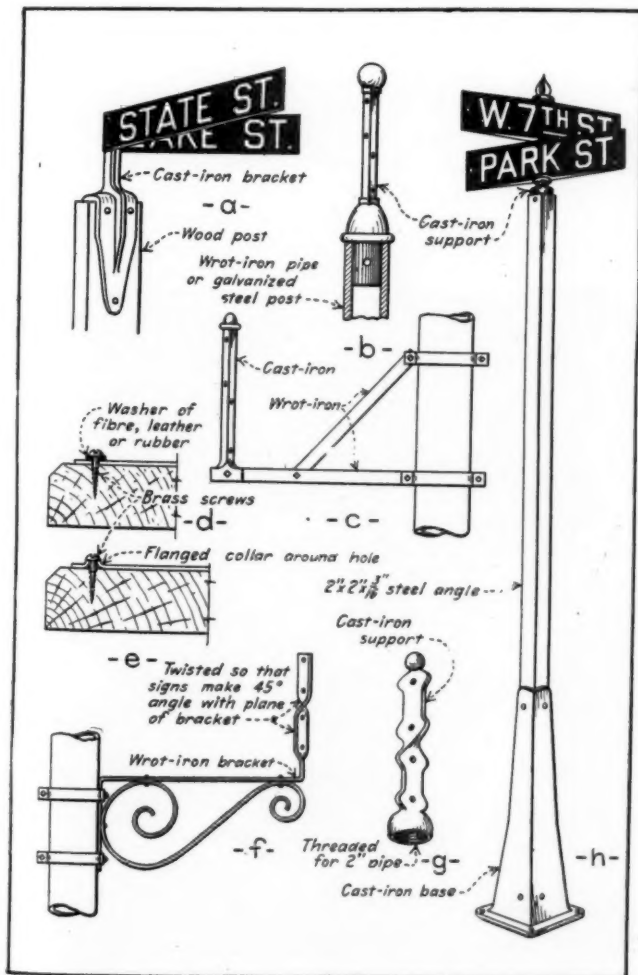
There seems to be a growing tendency to show the names of both intersecting streets on each wing of the street sign, as is done in the case of the New York sign, in which a decided prominence is given to the name of the cross street, the name of the street traveled being subordinated in size and position. This style would seem to be a fairly good solution, as there is little chance for misinterpreting its meaning.

It is held by many that street-name signs should, in addition to designating the street names, indicate the range of the house numbers within the block. The use of arrows to indicate the direction in which the numbers run is of value in this connection.

The city of Chicago provides a set of four direction letters, E, W, N and S, above its street-name signs. This scheme would be of even more value in such cities as have many streets irregular as to direction in respect to the points of the compass.

REDUCING WATER CONSUMPTION BY INSPECTION.

By the adoption of an improved method of inspection, the water officials of Cambridge, Mass., during 1914-15 succeeded in reducing the average water consumption in that city 1,508,774 gallons per day. By this method, the premises of each customer is visited monthly and where defective fixtures are found, notice is sent to the owner requesting that they be repaired. The officials feel that they have not yet reached the limit of the saving and expect that by closer inspection and with the continued co-operation of the public, a further reduction of at least 500,000 gallons per day can be made, in addition to meeting the natural increase in consumption. Consequently the further installation of meters has been postponed. At the present time 33.75 per cent of the services are metered.



VARIOUS DEVICES USED FOR SUPPORTING ENAMELED IRON SIGNS.

PRACTICAL STREET CONSTRUCTION —GUTTERS

**Their Purpose—Solidly Set Gutters vs. Cobble—Dished Gutters—Ditch Gutters—Width of Gutter
—Special Treatments.**

A gutter is provided to carry water which flows off of the roadway and sidewalk and conduct it to a sewer inlet or other point where it is removed from the street surface. It should be so constructed and maintained as to receive the water, carry it at a fair speed and suffer a minimum of erosion thereby. It should offer no obstruction to traffic or as little as possible.

Gutters can be found by the score which do not receive all of the water from the roadway, or even any at all from light storms, either because the roadway has worn down lower than the gutter, or because a rut or shallow gully has worn and washed along the outer edge of gutter. The crown of dirt, gravel and macadam roads is lowered more or less rapidly by use, and the fine matter therefrom washes into and frequently settles in the gutters. Allowance should be made for this by providing sufficient crown at first, and making the cross slope at the gutter steeper than at the haunches of the road.



Courtesy, Barrett Co.

COMBINED CONCRETE GUTTER, CURB AND SIDEWALK,
SINGLE NARROW SIDEWALK, WESTMOUNT, P. Q.

Where a gutter of concrete, or of brick or stone on a concrete base, is built in combination with a dirt or water-bound macadam roadway, the wear and wash are almost sure to start a rut alongside the outer edge of the gutter; and once started, wheels will follow in it and surface water flow down it with the result that it will deepen rapidly. And when this occurs, little water will reach the gutter proper, but its place will be taken by the rut.

For rapidly wearing or easily eroded road pavements, it is better, therefore, to build the gutter several inches lower than the roadway, and so maintain the latter that no ridge or rut forms between the two to intercept the water; or else to build the gutter of a material which will either wear as rapidly as the road, or will settle so that the edge of the gutter lowers as the roadway wears down. A combination of both is probably best.

To secure the latter result, cobble stones well bedded, laid close together and with a uniform surface are perhaps most satisfactory; although much the same results can be obtained by use of small irregular-shaped stones—"quarry spalls." If the roadway surface lowers by wear or otherwise along the edge of the gutter, the occasional team which draws in to the curb will press down the stones of the gutter to the same level; or will at least press down an occasional one, which will permit the surface water to pass from roadway to gutter at frequent intervals. A concrete gutter, however, will not settle, but will be ground or broken off more or less continuously

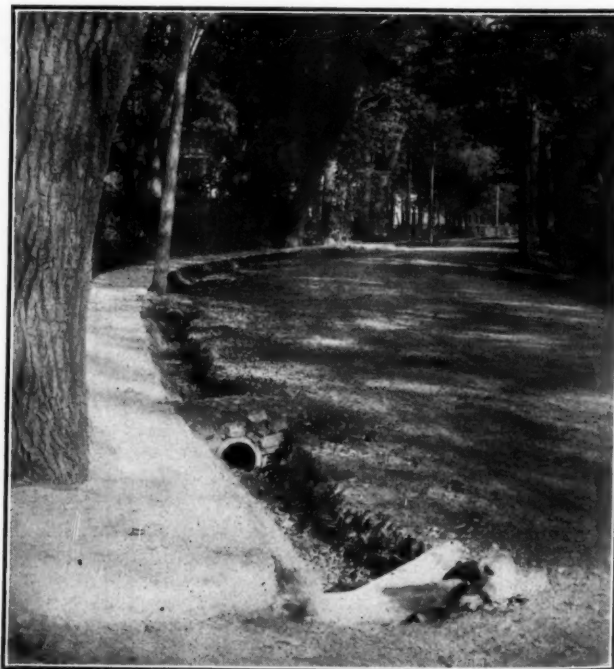
along the edge, but will not settle so as to permit the water to flow onto it. (This is assuming that there is not a rapid drop in the roadway surface just outside the gutter.) For many conditions perhaps the most satisfactory result is obtained by using a concrete gutter with a strip of small cobblestones between it and the roadway, such strip having a drop of two or three inches from roadway to concrete gutter, and settling under traffic as the roadway wears down.

A well laid cobble gutter costs as much as or more than a concrete and gives a less finished appearance; but we believe the former gives better satisfaction for use with any pavement less durable than a good grade of bituminous concrete or bituminous macadam. One objection to the cobble is the fact that grass frequently grows between the stones. This may be prevented by use of salt or one of the weed killers, or by covering the cobble gutter with a tar or asphalt paving compound, which will also give a smooth gutter. The latter plan is especially applicable if the road is top-dressed with a bitumen.

The appearance of a gutter well laid with small stones is, to our mind, more in keeping with a residence street lined with trees and paved with macadam or not paved, than any of the other gutters.

Where the roadway is paved with a hard and durable pavement such as stone block, brick, concrete, asphalt, wood blocks, etc., the material used for the roadway is also suitable for the gutter, and there would seem to be no reason why it should not be used for it, the gutter being in fact but a name to designate the foot or two of pavement nearest the curb over which the surface water flows. (Sheet asphalt pavements are now laid which suffer little if any disintegration from water standing on them; although a few years ago it was thought desirable by several cities to place concrete or brick gutters on streets paved with asphalt to prevent such disintegration.) For such pavements, therefore, there are no gutters built of a separate material. Some cities, however, lay brick or stone blocks lengthwise of the roadway for a foot or two from the curb, when the balance of the roadway is paved with the same material laid crosswise of the roadway.

There are some special locations where a stone block



Courtesy, Paterson Mfg. Co.

DEEP COBBLE GUTTER ALONG BITUMINOUS ROAD.

At Pointe Claire, Canada. At tree sidewalk might have been curved out over a pipe culvert similar to those shown.

or tough brick surface is desirable, laid as a wide gutter in connection with sheet asphalt or softer paying materials; these being especially where horses are accustomed to stand for long periods and paw or stamp, as at street market stands. But this is not strictly a gutter, but a special construction which occupies the gutter location.

There are differences of practice as to width of gutter, but the most common width appears to be 18 inches, few being narrower than 15 inches or wider than 30 inches. It would seem that the gutter should be of such width and slope that it will carry all the water that will reach it, without overflowing onto the roadway beyond the gutter. To accomplish this it is often desirable, where much water is carried by a gutter, to give the gutter a considerable pitch toward the curb, or dish it into the form of a channel. Some cities, in building brick gutters, have laid along the outer edge a row of brick on edge and extending about an inch above the gutter-level, the roadway surface being brought flush with the top of this elevated strip.

The gutter can, of course, be quite deep, taking the form of a ditch; but while this may be all right for a country road (although even here there is danger of a vehicle upsetting into the ditch on a dark night, or with a careless driver, or in passing a wide load of hay), it is undesirable for a city roadway in that it narrows it by the amount of its width, prevents a vehicle drawing up to the sidewalk, and even presents a barrier between roadway and sidewalk which can be crossed only at occasional bridges. There would seem to be no good reason, however, why the gutter can not be dished six inches or so, where there are considerable volumes of water to be carried, to prevent the run-off from rains flowing along and washing out the dirt or macadam roadway next to the gutter.

SEWER ASSESSMENTS IN REVERE.

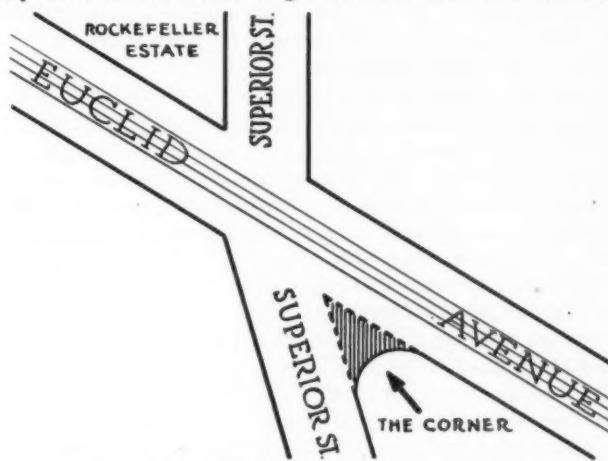
In preparing the 1915 sewer assessments for Revere, Mass., it was evident that the city was not collecting in assessments the percentage which the sewer assessments were originally intended to return—70 per cent of the cost of construction. The engineering department of the city made a study of sewer assessments in nearby cities; nearly all of which were found to be higher. It also found that during the past ten years the total amount assessed was only 39.3 per cent of the cost and recommended, as a fair and equitable assessment for sewer construction in Revere, 45 cents per lineal foot of frontage plus one-half of 1 per cent per square foot of area not exceeding 100 feet in depth. This arrangement would return 58.8 per cent of the average cost from a lot 80 feet in depth, 62.3 per cent of the average cost from a lot 90 feet in depth and 65.7 per cent of the average cost from lots 100 feet in depth. This is based on the average cost for the sewers constructed during the last ten years. When it is taken into consideration that ten years ago the price of labor and materials were both less than at present, it is probable that the assessment proposed would reduce the actual assessment in the future to about 55 per cent of the actual cost of constructing the sewers.

MUNICIPAL BANDS IN ST AUGUSTINE.

St. Augustine, Fla., has two municipal bands which are provided for by city subsidies. There is a white band which gives concerts in the down-town districts and contributes its services once a month at a municipal dance which is held on one of the principal down-town streets. There is also a colored band which gives weekly concerts in the colored settlements. The monthly dance programs are varied each month, as at Hallowe'en, when a big masquerade ball was held on a down-town street.

ROUNDING AN ACUTE STREET ANGLE.

Superior street and Euclid avenue, Cleveland, O., intersect at an oblique angle, and the acute angle at the northwestern corner has long been regarded by auto drivers as a disagreeable and dangerous turn. In order to remedy this, John D. Rockefeller, whose estate is diagonally opposite this corner, has deeded to the public a triangle of land thirty-three feet each way to enable the city to cut this acute angle back to a broad curve. A



PLAN OF THE IMPROVED INTERSECTION.

few years ago, when Superior street was paved with brick beyond Euclid avenue, Rockefeller criticised the paving of some of the steep grades on this road and suggested that the traffic be diverted from it to some better route. This will be facilitated by the rounding of this corner.

WHAT CONSTITUTE MUNICIPAL "PUBLIC WORKS."

How the Courts Have Defined the Term in Its Application to Streets, Sewers, Water Works, Street Lighting and Other Utilities.

By JOHN SIMPSON.

The term "public works" has been defined by the dictionaries as "all fixed works constructed for public use, as railways, docks, canals, waterworks, roads, etc.," Century Dictionary. And this definition has been approved by the courts in a number of instances. The term has been distinguished from "public department," which means "a division of official duties; a branch of government." The question as to what are public works has come before the courts almost entirely in connection with the construction of statutes in which it has been used. In regard to what are municipal "public works," it has been held that the term, as used in a provision of a city charter prohibiting the assembly from directly contracting for any public work, or improvement or repairs thereon, or fixing the price or rate therefor, and prescribing the method by which such work or improvement, etc., shall be done, has no technical meaning, and includes every species and character of work done for the public and for which the taxpaying citizens are liable.

Streets and Sewers.—The Missouri Court of Appeals in 1877 held that both sewer building and macadamizing of streets are public works, within the meaning of the charter of the city of St. Louis. Both are done under special city ordinances. Both are done under contracts made by the city officers. Both are paid for by assessments against the property-owners, enforced by special tax-bills. Judgement for the plaintiff was affirmed in a suit on a special tax bill for curbing, guttering, and macadamizing done in front of the defendant's lot.

In an action by one employed by the City of New York as a rammer on the city streets, claiming under the Prevailing Rate of Wages Act, it was held that the term "public work," used in that statute, includes work done by a municipal corporation itself as well as that done for a municipal corporation by a contractor.

Where a convict was sentenced "to work in the chain-gang on the streets of Augusta (Georgia), for twelve months" it was held that "the streets of Augusta are, in a sense, public works, and substantially within the scope and meaning of the section of the Code which prescribes the chain-gang penalty."

In an action for work done under a contract for the construction of a street, a public highway duly laid out in the city of Boston, the plaintiff relied upon a Massachusetts statute of 1892 which provides that "a person to whom a debt is due for labor performed in constructing any building, sewer, drain, water works, or other public works owned by a city or town under a contract with any person other than such city or town . . . shall have a right of action against such city or town to recover such debt with costs." The plaintiff contended that a highway or street is included in the phrase "other public works," and that it may be said to be "owned" by the city or town. It was held that, aside from the fact that it was highly improbable that a statute which was intended to apply to such a prominent and universal object of expense as the public ways should fail distinctly to name them, especially when it names sewers and drains, which are by no means so general, and are comparatively unimportant, in no proper sense could the public ways be said to be owned by the town. "The town house, engine house, sewers, drains and waterworks may be, and generally are, the private property of the town. They are constructed for the use of the inhabitants, and the ownership is in the town, in its corporate capacity. But there is no such ownership in the highways. The town does not become by virtue of the laying out the owner either of the fee or the easement."

In an action against the city of Denver, Colo., for damages to stock in trade by backwater caused by the construction of a sewer, the point was raised that the city was engaged in the construction of a public work for the benefit of the public, and for that reason was not liable for damages. The Colorado Supreme Court held that this proposition was not correct if by the terms "public" and "public work" the public generally and a work in which the state is interested be intended. The work was the laying of an underground pipe-sewer. This work could not benefit the general public or the state, but the city only. That the work was authorized by act of the legislature did not change the fact. That act was amendatory to the city charter, and authorized the city, by virtue of an ordinance to be passed in conformity with its provisions, to adopt a plan of sewerage, and to construct sewers through and along the streets and alleys of the city. It therefore appeared from the act itself that the work authorized was for the benefit of the city alone and that the general public or the state was not to be benefited thereby, as in the case of public highways, or of enterprises in which the public generally are beneficially interested.

Waterworks.—In an action for damages for injuries sustained by the plaintiff in the pumping station connected with the system of waterworks of Duluth, Minn., it was held that the term "public works of any kind" in the statute requiring notice of injuries therein within thirty days after the occurrence, was broad enough to cover the pumping station.

Lighting Streets.—In a taxpayer's action to prevent the commissioner of public buildings, lighting and supplies of the city of New York from making contracts for lighting the streets or other public places until such contracts should have been expressly authorized by the municipal assembly, the case turned upon the construction of section 413 of the Greater New York Charter providing that "any public work or improvement" must be authorized and approved by ordinance or resolution of the assembly. The New York Appellate Division, in 1899, held that that section related rather to public works in the nature of betterments and did not refer at all to such a matter as public lighting, which must constantly be provided for from day to day and month to month in the administration of the affairs of the city. "Of course," the court said, "there is a sense in which any service performed for a city, even the humblest, may be deemed a public work; but it seems quite clear to us that only enterprises in the nature of public improvements fall within the purview of this section of the charter."

But the New Jersey Supreme Court holds that the term "public works" in a statute regulating the government of cities applies to a street lighting contract.

Garbage Disposal.—The disposal of the city garbage has been held to be a public work in Missouri. To the contention that it was not a public work, because the contract was not for the building of the plant or works by which the garbage was disposed of, the court replied: "The disposal of the garbage for the city, whether done by machinery or hauling and dumping in the Mississippi river, is the performance of public work."—"To dispose of it requires work; it must be received at the plant, it must be handled and subjected to the action of machinery constructed for its disposal, all of which contemplates work. Is it public work? If not, what kind of work is it? The entire inhabitants of the city are interested in the work, which results in sanitary disposal. It is paid for out of the general revenues of the city, gathered from its taxpaying citizens. The municipal authorities contract for the performance of it. It costs the city over \$100,000 annually to have it done. In point of cost, it approaches very closely the most expensive of the designated departments over which the board of public improvements has jurisdiction. If this is not public work . . . we confess the term public work is not susceptible of a definition."

Bridges.—The construction and maintenance of bridges has been held to be a "public improvement" within a statute requiring the submission to a popular vote of the question of the issuance of bonds by a town for sewerage and drainage systems and other public improvements.

Buildings.—It is held in Indiana that the construction of buildings rendered necessary by the removal and location of a county seat is not a "public improvement or public works" within the meaning of a statute permitting donations by a city of money or bonds in aid of such an enterprise.

A city charter provided that "all works of improvements and public works" for the city, the cost of which should exceed \$500, should be let out by sealed bids to the lowest bidder, and declared that "work of which it is manifestly impossible to make specifications is not embraced in this requirement." It was held in Texas that the term, therefore, "works of improvements and public works" refers to the construction of public buildings and other permanent improvements, and the charter provision did not apply to the employment by the city of an architect to prepare plans for a public building.

Municipal Journal

Published Weekly at
50 Union Square (Fourth Ave. and 17th St.), New York
By Municipal Journal and Engineer, Inc.
Telephone, 2805 Stuyvesant, New York
Western Office, Monadnock Block, Chicago

S. W. HUME, President
J. T. MORRIS, Treas. and Mgr. A. PRESCOTT FOLWELL, Secretary
A. PRESCOTT FOLWELL, Editor

Subscription Rates

United States and possessions, Mexico, Cuba.....\$3.00 per year
All other countries..... 4.00 per year
Entered as second-class matter, January 3, 1906, at the Post Office at New York, N. Y., under the Act of Congress of March 3, 1879.

CHANGE OF ADDRESS

Subscribers are requested to notify us of changes of address, giving both old and new addresses.

Contributions suitable for this paper either in the form of special articles or of letters discussing municipal matters, are invited and paid for.

Subscribers desiring information concerning municipal matters are requested to call upon MUNICIPAL JOURNAL, which has unusual facilities for furnishing the same, and will do so gladly and without cost.

JULY 27, 1916

CONTENTS

Selection and Placing of Street Name Signs. (Illustrated)	93
Reducing Water Consumption by Inspection.....	97
Practical Street Construction—Gutters. (Illustrated)....	98
Sewer Assessments in Revere.....	99
Municipal Bands in St. Augustine.....	99
Rounding an Acute Street Angle. (Illustrated).....	99
What Constitute Municipal "Public Works." By John Simpson	99
Street Name Signs.....	101
Selection of City Managers.....	101
The Week's News. (Illustrated).....	102
Legal News—Notes of Recent Decisions.....	109
News of the Societies.....	111
Personals	112
Problems Cities Are Studying With Experts.....	112
New Appliances. (Illustrated).....	113
Industrial News	114
Contract News.....	115

Street-Name Signs.

The matter of clearly and systematically designating on the ground the names of the streets of a city is one which is not given sufficient attention by many cities. Outsiders can not be expected to know the names of the streets, nor to find their way about without learning them; and absence of signs or other means of giving such information conveys the impression that visitors to the city are not wanted, or perhaps that they are not expected.

Of course, if a city is so small that its citizens know the names of all its streets, having lived there from childhood; and if it has few attractions or inducements for outsiders to visit it, then street-name signs are unnecessary. But for any other city their absence is a serious inconvenience.

If they are to be used, they should be placed where they are readily seen. If not in a rather prominent position they lose much of their usefulness. And if prominent, they should be of a pleasing appearance and harmonize with the surroundings; be neat, kept in good repair and generally be a credit to the city. Signs with the paint half obliterated and hanging askew are a discredit to a city. To be of full service, there should be

plenty of them, and the total cost of them will be no small item.

The subject is therefore one deserving serious consideration by city officials. But the sources of information are few. *Municipal Journal* published a lengthy article on the subject a few years ago. The best discussion of the subject which we have seen since has been published by the Engineering Extension Department of Iowa State College, in a pamphlet of which we give a synopsis in this issue.

Selection of City Managers.

In a work entitled "Public Opinion and Popular Government," president Lowell says: "We no longer believe in America today that a man who has shown himself fairly clever at something else, is thereby qualified to manage a railroad, a factory, or a bank. Are we better justified in assuming that an election by popular vote, or an appointment by a chief magistrate, confers, without apprenticeship, an immediate capacity to construct the roads and bridges, direct the education, manage the finances, purify the water supply, or dispose of the sewage of a large city? And this when it is almost certain that the person selected will not remain in office long enough to learn thoroughly a business of which he knows little or nothing at the outset."

In almost any city of the country, more money is spent every year in building the public works and operating them and the other features of the government, than in any one business enterprise in the city. The selection of managers and superintendents for the city's business is therefore fully as important as for any private business.

A man can not ordinarily be an expert in a business which he practices only occasionally, and to have competent men in charge of municipal work it is necessary either for each city to train them in its own service, promoting them from time to time as occasion and their ability permit; or to employ those who have been trained by special education and experience in other cities. In other words, city employees in any technical and even in any executive branch should be those who are making a life work of this particular branch and do not come to the work as novices who must learn how before they can be expected to conduct the city's business effectively, and make way for other novices as soon as or even before they have acquired a fair proficiency in it.

Herein lies one of the advantages of the city manager form of government when, as is now becoming common, men are chosen as managers who make this a profession, leaving one city only to be employed in a similar capacity in another larger one. Manager Ashburner was taken by Springfield, O., from Staunton, Va.; Niagara Falls employed Mr. Carr from Cadillac; while Miller of St. Augustine and Cummin of Jackson were formerly assistants of Manager Waite of Dayton. None of these was a citizen of the city employing him, but was selected because he was a city manager by profession. He did not have to learn it all at the expense of the taxpayers before he could render them good service.

There is another advantage in employing a manager from another city—he begins his work with no "strings tied to him." Any citizen who is fit to be a manager has had dealings in important business matters with his fellow citizens and in the very nature of things can not at once sever all his business relations with them. He is therefore either prejudiced or biased along certain lines, or at least has affiliations with a certain group of business men, which fact handicaps him from the start in viewing and treating all public matters from the point of efficiency only. For this, if for no other reason, it is well to take a city manager from another city.

The WEEK'S NEWS

Good Roads and Auto Fees in United States—The New Jersey Road Commission—Infantile Paralysis Continues—The Richmond Sprinkler Case—Water Supply Control in New Jersey—Public Utility Litigation in Washington, San Francisco and Birmingham—Kansas Public Utilities—City Managers Talk in Philadelphia—Officials in Litigation in Williamsport, Toledo and Haverhill—Staten Island Garbage Fight.

ROADS AND PAVEMENTS

Automobile Fees and Good Roads.

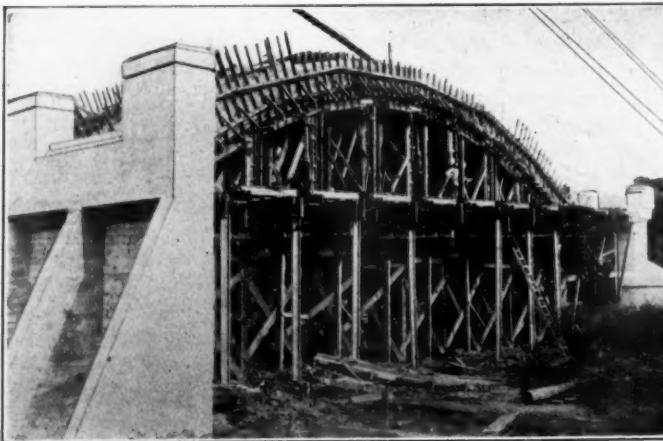
Washington, D. C.—Ninety per cent of the registration and license fees paid in 1915 by automobilists to the states, or \$16,213,387, was spent for the building and maintenance of county and state roads, according to a compilation just published by the Office of Public Roads, U. S. Department of Agriculture. In all, 2,445,664 motor vehicles were registered in that year and their owners paid a total of \$18,245,713 for registrations and drivers' and dealers' licenses. This is an increase of \$5,863,760 over 1914, and an increase of 734,325 in the number of vehicles registered. Automobile fees now defray nearly 7 per cent. of the total amount spent on rural road and bridge building, whereas in 1906 the income from this source was less than three-tenths of 1 per cent of the total expenditure. The growth of the volume of fees and registrations is indicated by the fact that in 1901 New York, the first state to require fees, collected only \$954. In 1906 only 48,000 cars were registered throughout the entire United States. By 1915, however, the number had jumped to the figure given, so that there is slightly more than one motor car registered for each of the 2,375,000 miles of road outside of the incorporated towns and cities. The relation between cars and road mileage varies widely in different sections. There is only one car for every 6 miles of rural road in Nevada, but nearly six cars for every mile of such road in New Jersey. There is an average of one car registration for every forty-four persons in the United States. Iowa apparently leads, however, with one car for every sixteen persons, while only one for every 200 persons is registered for Alabama. The figures of registration do not necessarily represent a total number of cars, as some of the states do not require annual registration, others group pleasure and commercial cars and motorcycles in their accounts, while still other states do not require registration of motorcycles.

There is great inequality in the registration fees charged by the different states. The average for the United States was \$7.46. The State of Vermont, however, secured in 1915 a gross revenue of \$18.10 for each car, while Minnesota received only about 50 cents annually for each car. In Texas and South Carolina no annual registration fees are collected, the only requirement being a county fee of 50 cents and \$1 respectively for perennial registration. Most

of the states, however, also levy annual taxes on motor vehicles and this adds greatly to the public revenue contributed by the owners of motor-propelled vehicles. In the use of fees, however, there seems to be a general policy of applying the major part of the money collected from automobilists directly to road betterment. In forty-two of the states all or the major portion of the motor-vehicle revenue must be expended for the construction, improvement, or maintenance of the public roads, or for the maintenance of the state highway department. In twenty states all or the major portion of the net motor-vehicle revenues are expended by or under the supervision or direction of the state highway department. In seven states one-half to one-fourth of the state motor-vehicle revenues are expended through the state highway departments and the remainder by the local authorities. Many states, in addition to applying license fees to road construction expend for this purpose a large part of the fines and penalties collected from owners. In the number of registrations New York State led in 1915 with 255,242, Illinois was second with 180,832, California third with 163,797 and Pennsylvania fourth with 160,137. In gross revenues received from this source, however, California led with \$2,027,432, New York was second with \$1,991,181, Pennsylvania third with \$1,665,276, while Iowa, with 145,000 cars registered, came fourth in point of revenue with \$1,533,054.

New Jersey Road Commission Asks Questions.

Trenton, N. J.—In order to gather the public's views, governor Fielder's Commission on Road Legislation has sent broadcast a letter including a list of statements and questions. Engineers, contractors, manufacturers and other individuals have been invited to write the commission before August 1, giving any information or suggestions they may have regarding the road situation in New Jersey. Boards of trade, granges, civic associations and similar bodies, and newspapers have been asked to do the same. Each letter contains questions dealing with the various phases of the road situation, and building, road supervision and road law enactment. From the replies, the commission intends to compile such data as may be utilized in framing a report to Governor Fielder before the next legislature goes into session. This report will contain the remedial suggestions of the commission. In addition, the commission is holding meetings throughout the state. All answers



Courtesy, Johnstown (Pa.) Daily Tribune.

WORKING ON JOHNSTOWN'S NEW BRIDGE.

to the questions should be mailed to John W. Herbert, chairman, at the office of the New Jersey State Chamber of Commerce, 15 Exchange Place, Jersey City. "What is the trouble?" queries the questionnaire after reciting a few of the ailments of the New Jersey road system. "Does the fault lie with a tangled mass of unintelligible road laws? Are we struggling hopelessly to administer the road laws in township, county and state by numerous undefined and varied types of road construction? Do these employees elected by the people or appointed for political reasons hold office for such short periods of times and under such conditions that they cannot become effective in their work? Are we building and maintaining our roads by unsound or unbusinesslike measures of finance? How much interest are we paying on bonds issued to build poor roads which have gone to pieces or will go to pieces before the bonds mature?" In summarizing, the questionnaire puts it thus: "In a word, do we have a scientific, efficient and far-sighted road policy, capable of automatic expansion and application to meet increased growth and change of traffic conditions, or do we act only upon the stress of necessity, striving to get good roads by passing an annual instalment of road legislation?"

Convicts to Make Auto License Plates.

Harrisburg, Pa.—The contract for automobile license plates for 1917 has been awarded to the Prison Labor Commission by Commissioner Black of the State Highway Department. The Prison Labor Commission was the low bidder on these tags when bids were opened on June 28. The award of the contract to them was held up because no certified check accompanied their bid, as required by the specifications of the state highway department, but the attorney-general's department has advised Commissioner Black that the Prison Labor Commission did not have to file a check, being an official body. The Prison Labor Commission bid 15 cents a set for the motor vehicle tags for 1917, while other bids ranged around 25 cents.

Citizens Pay Extra for Pavement They Want.

Boston, Mass.—Commonwealth avenue residents have been victorious in their agitation for a pavement of bitulithic, instead of asphalt, and in a manner quite unexpected, in view of the announcement from the mayor's office that the contract had been awarded to the Central Construction Company for the laying of sheet asphalt. That company submitted the lowest bid. Mayor Curley has received from chairman John H. Dillon, of the park and recreation department, a check of \$7,990.90, accompanied by a letter from a committee of Commonwealth avenue residents. This check covers the difference in price between the lowest bid for sheet asphalt and the lowest bid for bitulithic and is in accordance with a promise made by the mayor that the latter pavement, the patented product of Warren Brothers, would be laid if the city were reimbursed for the additional

Good Progress on Bridge.

Johnstown, Pa.—The completion of the new Horner street bridge, connecting the Seventh and Eighth wards, within two months, provided weather conditions remain favorable, is announced by Frank Ryan, who is superintending the construction of the bridge. Accompanying pictures show the present stage of the work. The span nearest the Seventh Ward is completed except for the pouring of the concrete, which has begun. A large force of workmen is engaged in preparing the excavation for the abutment on the Eighth Ward side of the creek, and timbering the excavation. When this is completed the pouring of concrete for the abutment will be started. Workmen are now constructing the false work for the second span and this will be placed at an early date.

City Has All Control Over Streets.

Baltimore, Md.—The mayor and city engineer have absolute control over the streets of Baltimore, and the Public Service Commission has no authority to coerce them into granting permits to tear up paving for the installation of gas mains, according to an opinion handed down by W. Cabell Bruce, general counsel of the commission. The opinion was rendered by Mr. Bruce, following a protest filed by the Consolidated Gas Company, which stated that

the city officials refused a permit for that company to install a service pipe. "Neither by express terms nor by necessary implication," says Mr. Bruce in his opinion, "does the Public Service law give this commission authority to interfere with the city in the exercise of its plenary authority over its own streets granted to it by the general assembly." Then he quotes the city ordinances governing the paving and repaving of streets and says: "The statute prescribes that when the pavement or repavement shall be once laid it shall not in any event be dug up or torn up in whole or in part at the instance of or by any person unless in the case of some special emergency that could not under the circumstances be reasonably expected to have been foreseen by such person, except upon permit obtained by the mayor and the city engineer jointly."

SEWERAGE AND SANITATION

Infantile Paralysis.

New York, N. Y.—Cases of infantile paralysis continue to increase steadily although the rate has been observed to fall off very slightly, especially in Brooklyn, the original focus of the epidemic. Up to July 26, 3,098 cases and 647 deaths have been reported. The organization of the department of health is improving and the grip on the disease is being strengthened. Diagnosticians are increasing their accuracy and mistakes are much fewer than at the beginning of the outbreak. That efficiency has not been attained in handling the situation is indicated by the fact that a department doctor was dismissed and a police officer suspended for leaving an ambulance in their charge, containing seven sick children, at the door of a saloon, while they went inside for a long period. There are also numerous complaints against treatment of patients in the hospitals because of inadequate facilities. The city did not accept the conditions made by Congress in offering the beds in the government hospital at Ellis Island. Congress authorized an appropriation of \$85,000 for aiding in the fight in New York City. The Rockefeller Foundation gave \$50,000 for research and investigations, and Dr. Alvah H. Doty, in charge, is achieving some satisfactory results. Health Commissioner Haven Emerson finds that there has been a slight advance in the age of incidence, older children being affected to a greater extent than before.

Suburban cities continue their quarantine, and many have joined the list in prohibiting the entrance of New York children. The cases in nearby and distant cities are increasing in some places—but nowhere to an alarming degree.

Expert and Citizen Inspectors for Sanitation.

Kansas City, Mo.—The board of health has decided to employ Rudolph Hering, a sanitation engineer of New York City, at a salary of \$100 a day and traveling expenses, to come here and make a report on how to dispose of the garbage and other waste of the city. The board has one-half million dollars of bond money to spend for this purpose. It decided also to name a taxpayer in every block in the city as advisory sanitary inspector to the board; the citizens to serve without pay. These co-operative sanitary inspectors are expected to report any insanitary condition they may observe in food shops or elsewhere in their district. They will constitute a nucleus around which to build public sentiment for better sanitary laws.

Indiana Bans the Common Cup.

Indianapolis, Ind.—The state board of health has begun war on the public drinking cup, a resolution having been adopted directing all health officers to abolish drinking cups in public places. The board acted under that provision of the law which states that the board shall have authority to condemn and abolish conditions that cause disease and the spread of disease. Dr. J. N. Hurty, state health commissioner, said there are fewer public drinking cups in Indiana now than there were a few years ago, and that the campaign for better sanitary conditions has caused a large number of the cups to be abolished. However, in some localities it is said the public drinking cup is yet in existence. The use of the common drinking cup in public

conveyances, stations, hotels, restaurants, public buildings, parks, at fountains and all other places where water is provided for public use, is to be prohibited from and after August 1.

Sewerage Survey Planned.

Marquette, Mich.—The city commission has passed a resolution to accept the offer of the state board of health to send one or more of its sanitary engineers and inspectors to Marquette to make a thorough inspection of the city's sewer system, and to advise the city as to the most desirable manner in which to improve it. For many years the sewer system of Marquette has been giving the city considerable trouble and has been a constant source of heavy expense for upkeep and repair, with unsatisfactory results. It has been long realized by the commission that many of the main sewer lines need enlarging, and other changes, but the city officials hesitated to go ahead with the expenditure of a large amount of money without the co-operation and advice of state experts. According to the state laws the city is not entirely independent in matters concerning public health, which include the building of sewer systems and the matter of the city's water supply. For this reason, Mayor Begole wrote to Dr. J. O. L. Burkart, secretary of the state board of health, informing him of what the city is desirous of doing, and asking that a representative of the state board be sent here to investigate conditions and counsel the city. The city will be required to pay the state expert \$5 per day and his traveling expenses for the work.

WATER SUPPLY

Sets Aside Big Aqueduct Tax.

Yonkers, N. Y.—Supreme court justice Keogh at White Plains has made final entry of an order in the case of the city of New York against the board of assessors of the city of Yonkers setting aside as illegal more than \$21,500,000 of the assessments against New York city on its aqueduct property here. Only \$1,496,306.98 of the original assessment of \$23,070,950 is sustained. The order of Justice Keogh sustains an interlocutory order issued in July, 1914, setting aside the assessment. It closes the case as far as the supreme court is concerned. It is probable that the city will appeal from the decision. The suit was brought in 1913 and was to review the assessment rolls of 1913 for the tax of 1914. It was based on the effort of Yonkers to tax New York city for the land and the aqueduct construction on the new Catskill aqueduct and the Hillview reservoir within this city. The aqueduct construction work was assessed at \$15,776,300, all of which the court has set aside, and the land and improvements at the reservoir at \$7,294,650. Of this amount the court left in the assessment rolls \$1,496,306.98 of which \$579,650 was the valuation of the land. New York based its case on a special provision in its charter and also on a state law exempting aqueduct construction from taxation. In regard to the reservoir property, it claimed that it was overvalued. The case was first tried before Justice Mills, who handed down the interlocutory order. Justice Mills did not rule on the reservoir valuation, but he appointed a referee, Frank L. Young, now judge of the county court, who determined the value of the property at the figures fixed by Justice Keogh, about \$200,000 above the valuation fixed on the property by New York city. Justice Mills was elevated to the appellate division and could not complete trial of the case. Justice Keogh took up the litigation. The entire assessment was kept on the tax rolls until this year. In the assessment rolls for 1917 the \$15,000,000 is cut out but the reservoir property is assessed at \$7,239,550.

Must Pay for Sprinklers.

Richmond, Ind.—Denying the petition of the city of Richmond and of the Richmond Commercial Club, the public service commission has handed down an order in which it fixes the schedule of charge for the service of water by the Richmond City Waterworks Company to firms having automatic systems installed in manufacturing and mercantile establishments. The order takes effect August 1. The fight,

which the city administration and Richmond manufacturers made against the fixing of a charge for serving automatic sprinkler systems, was followed closely by other cities in the state where like conditions are expected to arise. The opposition was based on the ground that the automatic sprinkler systems were installed entirely at the owners' expense, and as the systems in putting out fires in their incipient stages would require less water than would be needed if extinguished by firemen using hose lines, the systems were effecting a saving in water and consequently in expense to the company. The commission's order says that all private fire-protection systems, either standpipes, hose valves, automatic sprinklers or fire hydrants shall be metered. For each of these connections it fixes a minimum charge of from 50 cents to \$15 a month, according to the size of the meter. The commission modifies its original order. It increases the physical valuation of the company's property to \$850,000, which includes an allowance of \$25,000 for "going value." Chairman Thomas Duncan, of the commission, stated that the company is entitled to 6½ per cent—which, together with depreciation, operating expenses and taxes, is to total \$103,778. To raise this total, the commission fixed rates for meter service as follows:

First 3,000 gallons a month—20 cents per thousand (same as old rate).
Next 7,000 a month—15 cents (same as old rate).
Next 80,000 gallons a month—13 cents (increase ½ cent).
Next 910,000 a month—8 cents.
Next 1,000,000 gallons a month—7 cents.
Next 2,500,000 gallons a month—6 cents.
Next 4,000,000 a month—5½ cents.

The commission decided that there should be a minimum charge for every meter, depending on the size of the meter. For less than one-inch meters the charge is 50 cents a month; for one-inch meters, 75 cents a month; for 1½-inch meters, \$1 a month, and so on until the maximum charge is \$15 for a 6-inch meter. The city of Richmond must pay \$2.50 more a month for each fire hydrant, the rate being raised from \$55 to \$57.50. The commission defends the sprinkler charge, citing instances where the charge has been made in the state and declaring that a state-wide referendum showed that 20 per cent of the manufacturers admitted the sprinkler charge is just.

Twenty-Two Killed in Waterworks Tunnel.

Cleveland, O.—Four investigations, city, county, state and federal, are being made of the disaster which killed twelve men after a blast at work in the waterworks tunnel under Lake Erie. Two rescue parties tried to reach the entombed men, but ten died in the attempt and eight injured by the deadly gases. Gustav C. Van Jusen, superintendent of waterworks construction, was among the rescuers revived. D. J. Parker and L. M. Jones, of the United States Bureau of Mines, came to the rescue, but all attempts had to be abandoned for a day because of the explosive nature of the air in the tunnel making any entrance dangerous.

New Jersey's Water Supply Administration.

Trenton, N. J.—The last departmental consolidation under the economy and efficiency laws of 1915 took place when the state water supply commission passed out of existence and its duties and activities passed back into the jurisdiction of the geological survey, from which they were taken when the commission was created in 1907. The geological survey itself was lodged under the activities of the department of conservation and development when the economy program established that branch of the state government, so that the water supply commission's jurisdiction is now given over to the conservation officials of the state. Five members of the commission go out of office. They are: Mahlon L. Hoagland, the president, of Rockaway; Charles A. Meyer, Andover; Laurent J. Tonnele, Bayonne; William E. Ramsay, Perth Amboy, and Henry S. Scovel, of Camden. The salary of each member is \$2,500 a year. Morris R. Sherrerd, of Newark, is the engineer of the commission; William H. Boardman, of Newark, assistant engineer, and Nathan H. Pendergast, of Jersey City, secretary. Two members of the outgoing body, Ramsay and Tonnele, are already appointed members of the North Jersey district water supply commission, created

under the law passed at the last legislative session. It is understood the law abolishing the commission provides that the department of conservation shall take over all the employes of the old body. Engineer Sherrerd and Secretary Pendergast are to be affiliated with the North Jersey commission. Assistant Engineer Boardman may or may not hold office under the conservation branch of the state government. The salaries of the North Jersey commissioners begin at \$1,200 a year, and when water contracts are negotiated with municipalities will increase in accordance with responsibilities. Dr. Henry B. Kummel, chief of the division of geological survey, will be the active head of the water supply matters under the plan of consolidation. The survey has already mapped out its course of activities with respect to the added duties. Statistics will be collected as to the amount of water diverted yearly and these figures will be certified to the comptroller, as the office of the latter makes out yearly bills for the excess water diverted. Among the things planned is a canvass of all dams in the state, unless the water supply commission's office already contains this data. The height, construction, amount of water impounded and other facts will be gathered. Another early undertaking, said Dr. Kummel, will be to canvass the water power in the state to determine the amount used during the past twenty-five years; to determine the various uses to which power is put and to what extent the use of electricity has been developed in connection with water power. A similar canvass was made in 1890. Other things to be taken up later will be the question of undeveloped water power, a re-establishment of the water supply commission's former series of river gauges to ascertain the daily height of the water (the series was abandoned for lack of appropriation), collection of data regarding underground water conditions and a continuance of all the duties formerly lodged with the commission now abolished.

Water Supply Running Low.

Pontiac, Mich.—For the first time in several years it has been necessary for the city water department to put a check on the use of water in Pontiac. Notice has been given water consumers by commissioner J. E. McLintock that on account of the lowness of the city water supply it would be necessary to forbid the use of water for lawn sprinkling purposes until further notice. On one day the big pump at the waterworks pumped more than 8,000,000 gallons of water, its full capacity. The water in the wells has lowered to 27 feet and is getting to a point where it is dangerous. So great has been the demand for city water during the recent dry spell that the pumps could barely supply the city and were left no opportunity to refill the two-million-gallon reservoir, erected several years ago. This reservoir, it was believed, would prevent the necessity of ever restricting the use of water in the future. A well contractor is here and will commence work at once, sinking two more wells in the vicinity of the waterworks. Other Michigan cities have similar problems. Royal Oak is almost without water, and the water supplies are limited in Mt. Clemens, Flint and Ann Arbor.

STREET LIGHTING AND POWER

The Capital Valuation Case.

Washington, D. C.—At the outset the Potomac Electric Power Company won an important ruling from the commission, which is expected to serve as a precedent in all valuation proceedings to be conducted by that body, when the commission announced that it will assume the burden of proof that its ascertainment of the value of the power company's properties are fair and just. Overruling the application of the Washington Railway and Electric Company that it be admitted as a part respondent to the proceedings, the public utilities commission, after numerous delays over procedure details, has begun the actual taking of its valuation on the property of the Potomac Electric Power Company. Charles S. Pillsbury, the engineer of the valuation bureau who actively directed the ascertainment of value for the company's physical properties, admitted that some items had not been included in the report be-

cause they were not held to be used or useful in the conduct of the power company's business. Mr. Pillsbury explained the organization of the bureau for valuation work, the method of reproduction of the company's property and the cost of reproduction less accrued depreciation. At the conclusion of his testimony Conrad H. Syme, general counsel for the commission, offered the bureau's report as evidence.

The commission's action in denying the application of the Washington Railway and Electric Company was in accordance with the recommendation of its attorney, Mr. Syme, who claimed that the utilities law required the utility corporations of the District to be valued separately, and that the Washington Railway and Electric and Potomac Electric Power companies are separate corporations. Mr. Syme took the position that under the act of Congress incorporating the Washington Railway and Electric Company, it was expressly provided that this company should not acquire either the franchise or the property of the Potomac Electric Power Company. He says the railway company could not in any event have exercised the franchises and assumed the duties of the electric power company except by the express grant of Congress of power so to do, and that this grant had not only not been made, but had been directly withheld. Mr. Syme then took the position that no quasi-public corporation could by any contract or obligation entered into with another, deprive the legislative authority of its right to establish reasonable rates and reasonable service, and that what was reasonable as to both rates and service depended upon a fair valuation of the property of the public utility supplying the service, and compelled by the public utilities law to charge only reasonable and non-discriminatory rates. He said that if contracts between corporations could be given the effect insisted upon by the attorney for the railroad company, every public utility corporation would have within its power the right to defeat the rate-making power of the commission.

Investigate Gas Units.

New York, N. Y.—The public service commission for the first district has directed its gas engineer, Willard F. Hine, to begin experiments at once in connection with the department of water supply, gas and electricity of the city of New York, to determine whether the British thermal unit standard for illuminating gas shall be established within the jurisdiction of the commission. The purpose of the experiments is to determine whether the present standard of gas shall be changed so that its value shall be judged upon the number of heating units rather than upon the number of candlepower units produced. With the increased commercial use of gas and also the increase in the use of mantles, the heating power of gas has become a more important factor than the candlepower; and it is for this reason that the commission will undertake to establish the new standard for New York City.

The San Francisco Gas Rate Case.

San Francisco, Cal.—With the testimony of two consulting engineers, N. Randolph Ellis and J. M. Baillhache, the city closed its case before Railroad Commissioners Thelen and Devlin, in its application for a reduction of the gas rates of the Pacific Gas and Electric Company in San Francisco. The hearing has already taken several months. The city's contention is that the company has charged certain items to gas operating expense, which should not be charged under that head. If it succeeds in proving this, the city will endeavor to have the rates reduced on the ground that the company is making too large a profit—that the operating expenses of its gas business are not really so great as the company claims. Charles P. Cutten for the gas company cross-examined Baillhache, and asserted that Baillhache has pro-rated items aggregating some \$150,000 to local and general administrative expense, which should be charged to San Francisco gas expense. The result of Baillhache's prorating, Cutten contended, was to make the local gas production expense appear \$150,000 less than it really is. On the other hand, it was contended by Baillhache that such items as traveling and other expenses of President Frank G. Drum and Vice-President John A. Britton, should be pro-rated to the various units of the Pacific Gas and Electric system,

as such expenses did not relate wholly to the San Francisco business of the company. L. E. W. Pioda, secretary of the Electric Railways, Light and Power Association, testified to payments made to him by the company during 1913-1915.

The commission had expressed a desire to be informed as to the nature of these payments, which amounted for the period to about \$26,000. Pioda explained that the payments were the share of the Pacific Gas and Electric Company to the general expense incurred by the association. The association's expenses were made up of lawyers' fees in litigation and legislation affecting the association's members. About a dozen light and power and electric railway corporations were members, he said. All were legitimate expenses and for the welfare of the members. The city's experts have not allowed these expenses on the ground that they have no bearing on the local gas business. The company claims they are proper operating expenses. The company paid \$1,975.85 for legal services at the Legislature in 1915, and \$1,967.32 in 1913. Bills vitally affecting the corporations of the association were coming up and the lawyers engaged, among whom was E. W. Freeman of Los Angeles, represented the association before legislative committees, digested bills proposed and arranged for presentation of matters in legislative hearings. They did not, he said, meet legislators personally. Cutten contends that Baillhache has taken out of general administrative expenses everything that does not apply particularly to San Francisco gas business, and then has divided the balance over the entire system. Also that he has cut out all expenses of keeping the accounts required by federal litigation, also the expenses of inventory necessary to keep pace with additions to property, also the expenses of advertising sale of securities, and, finally, the charges of the trustees in handling the securities. Ellis testified he had found the reproduction value of the gas properties in this city to be \$13,594,000 as of December, 1914, and the present value to be \$9,605,000. Cutten cited as an example of his objection the estimates by Ellis of the gas tunnel in the Potrero. Of this the reproduction value Ellis found to be \$11,644, while the present value he fixed at \$8,966. Cutten wanted to know if this were not just as good a hole in the ground now as it was when dug several years ago. Ellis said he used the straight line method of depreciation.

New Municipal Plant Completed.

Perth Amboy, N. J.—The new municipal light, heat and power plant is ready for operation. The time of starting is held in abeyance pending the receipt of permission to construct an oil line under Lehigh Valley tracks. The oil system has been practically completed. It can be put in service within a few days after the necessary permission has been obtained, officials state. City Electrician Jay B. Franke has been very successful in obtaining contracts for commercial lighting. He has signed up some of the largest consumers of current in the city's principal business districts. Alderman F. William Hilker states that at least \$20,000 a year should be realized for commercial purposes. The plant has a capacity of 500 kilowatts. Of these about 120 will be used by the city and the remainder is for sale at a profit.

New Light Franchise.

Lexington, Ky.—The new electric light and power franchise ordinance has been unanimously passed by the board of city commissioners, the terms of the franchise being identical with those agreed upon between the city officials and the Lexington Utilities Company, which holds the present franchise. The Lexington Utilities Company will be a bidder and perhaps the only one. The new franchise makes a reduction of about 40 per cent from the present rates. The salient features of it are as follows: It is a twenty-year franchise; maximum rate is 9 cents, less 10 per cent discount; commercial lighting 8.5 cents, less 10 per cent; power, 8 cents, less 10 per cent; lower rates may be granted, according to amount used, but special rates, rebates and discounts are forbidden; special schedule provided to give breakdown service to private plants; minimum charge \$1 per month; all rates and schedules to be open to public; commissioners empowered to prescribe methods of keeping accounts; commissioners given absolute rate-making

power at four-year periods, but rates are not to be made higher than maximum in franchise; lowest acceptable bid to be \$10,000; new rates take effect November 1. The franchise was drawn up with the expert assistance of the Utilities Bureau of Philadelphia.

Injunction Against Proposed Municipal Plant.

Birmingham, Ala.—City Attorney M. M. Ullman has filed the answer of the city commission to the suit of injunction brought by T. C. McDonald, against the \$500,000 electric light bond issue. In addition to filing injunction proceedings to hamper all three bond issues voted on June 5, Mr. McDonald also filed a separate bill headed directly at the \$500,000 electric light bond issue. In this bill Mr. McDonald alleged that the ballot did not truly represent to the voter the intentions of the city commission and also that it was unconstitutional to build a municipal power plant, although a municipal electric light plant was plainly within the law. In his answer to these two points city attorney Ullman cites the fact that the city of Birmingham proposes to enlarge the municipal electric light plant at North Birmingham mainly for the purpose of supplying electric light to consumers throughout the city. It avers that the manufacture of electric power will be merely incidental to the main purposes of the plant. Commissioner James Weatherly intends to issue the electric bond and to construct the electric light plant if possible. The only technicality in the way of issuing the bonds at the present time is the writ for an injunction sought by Mr. McDonald. Judge H. A. Sharpe has already ruled that the city's bonds can be legally issued provided the interest on them is not paid out of the special tax of 5 mills.

Public Utilities in Kansas.

Topeka, Kans.—All Kansas public service corporations of more than local extent are valued at \$439,740,002 for tax purposes by the Kansas tax commission. The final assessment figures on the public utilities have been completed and the valuation fixed for the different classes of public service companies are:

Railroads	\$387,227,917
Pipe line companies	25,116,303
Street and interurban railways	13,892,967
Telephone companies	10,654,898
Telegraph companies	2,729,059
Express companies	118,858
Total	\$439,740,002
Increase	7,664,137

This total does not include several hundred mutual and local telephone companies and numerous pipe line companies that are entirely within a single county. The Prairie Pipe Line Company was given the largest increase in valuation by the commission. More than four and three-quarter million dollars was added to the value of this company in the last year, due to new construction and many improvements. The pipe line companies were assessed as follows:

Gas Pipe Line Corporation	\$ 159,807
Kansas Natural Gas Company	5,100,980
Kansas City Pipe Line Company	2,518,860
Prairie Pipe Line Company	13,885,552
Quapaw Gas Company	37,994
Wichita Natural Gas Company	2,499,994
Wichita Pipe Line Company	913,116
Total	\$25,116,303

Low Rates in Effect.

Providence, R. I.—In accordance with the agreement reached with the city council last February, the Narragansett Electric Lighting Company has put into effect the reduced rates on residence electric lighting and on street lights. The reduction in residence lighting rates, which amounts to 10 per cent, will cut the rate from 10 cents per kilowatt hour to 9 cents. For this reduction, however, the company withdraws its present custom of furnishing free carbon lamps. The withdrawal of the free lamps is expected to make little difference to householders, as in nearly all instances now some form of tungsten lamp is used, and

these lamps have to be purchased by the user. Residence users of electricity, under the new agreement, will have the option of retaining the present free carbon lamp privilege if they wish it, but if this is done the old rate of 10 cents per kilowatt hour will continue for them. Reductions will be made on all classes of street lighting by the agreement. The new rate for overhead incandescent lights will be \$16 per year, a cut of \$1 over the present rate; for underground incandescents the price is cut from \$22 to \$21. Overhead arc lights will cost the city \$70 a year, a cut of \$5 over the present rate, while underground arcs are cut from \$85 to \$80. Two, three and five-light clusters of both classes will be pro-rated proportionately to these new prices. In addition to cutting the rates on incandescent lights, the Narragansett company agrees to make each incandescent a 100-candlepower light, instead of a 90-candlepower, as at present. According to figures worked out by Public Service Engineer Brunet, the aggregate reductions in the street lighting rates will mean an annual saving to the city of about \$15,500, based on the number of lights in use now.

FIRE AND POLICE

Chief Behrens to Help Cities.

Charleston, S. C.—The board of firemasters has given permission to Chief Louis Behrens to make a tour of the state, visiting the fire departments of the cities, delivering lectures on proper equipment of fire departments, inspection of risks and decrease of the fire waste. Chief Behrens will go out as a deputy of the insurance commissioner, and the permission of the board of firemasters was given at the request of Insurance Commissioner McMaster. The insurance commissioner is assured that he will receive the co-operation of the mayors of the towns and cities and of the fire chiefs of the state in securing audiences for Capt. Behrens. Mr. Behrens will be prepared to confer with the fire chiefs in respect to the proper methods of making inspections of buildings, will pass upon the requirements of the various towns in respect to fire-fighting apparatus, and will give his judgment as to the best means of preventing fire waste. Last year Chief Behrens undertook this work, but after being out for only one week he was called back to the city by the accidental death of his assistant chief. He was not able subsequently to undertake the work. He will announce his itinerary very soon.

Policemen and Firemen Under Compensation Law.

Duluth, Minn.—Policemen and firemen are "employees" within the meaning of the workmen's compensation law and if killed while in the discharge of their duties their dependents may recover compensation from the city, according to decisions announced by the Minnesota supreme court. Neil Mooney, New Duluth patrolman, was shot and killed while attempting to make an arrest three years ago last January and his dependents brought an action in the district court to recover compensation from the city. The city contended that it was not liable, but Judge Fesler of the trial court held that the compensation act applied. He is upheld by the higher tribunal. The supreme court holds in the Mooney case that a policeman is a person in the service of the city and one not appointed for a regular term of office. The city's contention was that he was an "officer" and not an "employee" within the meaning of the statute. "The question is not whether a policeman is an officer or an official," the court states, "but whether he is an 'official' elected or appointed for a regular term of office. Clearly he is not. Under the Duluth charter policemen receive their office by appointments under civil service rules. They hold office during good behavior. There is no term at all. Manifestly this is not an appointment for a regular term of office."

Fred E. Granzow, first assistant fire chief, was killed on Sept. 10, 1915, while making a run to a fire. His widow and 10-year-old daughter, both dependents, brought suit to recover compensation from the city under the workmen's compensation law. The trial court held that the city was liable and the case was appealed. The supreme court holds that the same rule applies in the Granzow case as in the

Mooney case. Another question which was raised in the Granzow case which did not enter into the other case was whether or not the fact Granzow was a member of the Duluth Firemen's Relief Association and that his dependents draw benefits therefrom would bar recovery of compensation or reduce the amount they would be entitled to receive. Judge Dancer held that the receipt of funds from the association did not bar the defendants from recovering full benefits under the workmen's compensation act and he is also upheld by the higher tribunal. "We are of the opinion," the supreme court states, "that the fireman who joins and contributes to the funds of this association should be held to have purchased the protection which the association affords, for the benefit of himself and his family, and not for the benefit of his employer."

Regulation of Private Ice Plants.

New York, N. Y.—Investigation, following the explosion in a Brooklyn butcher shop, which wrecked the four-story brick building and cost the lives of five, disclosed that until a few days ago there were no specific requirements by the city for the safe conduct of such plants. The Fire Prevention Bureau could not conduct an investigation and formulate rules which would guarantee the installation of artificial icemaking plants in accordance with safety. There are estimated to be at least one thousand artificial icemaking plants in the city. The owners and operators have been served with notice that sweeping changes must be made and have been given until January 1, 1917 to meet the new laws. The new requirements will call for many changes in the construction of the plants and the licensing of all operators who are employed on plants of over three tons capacity. It is probable that Joseph Hammitt, head of the Fire Prevention Bureau, will ask the Board of Aldermen to pass an ordinance requiring the licensing of the operators of all plants. Since the first of the year five men from the Fire Prevention Bureau have been conducting an investigation. The appropriation calls for the employment of five men. The top salary is \$1,750 a year. This is paid to one man. The others receive a little over \$1,200 a year. Early in January the American Society of Refrigerating Engineers came to the Fire Prevention Bureau with the proposal that it aid in the task of formulating fixed safety requirements. At that time there existed no specific set of requirements. The offer of the society was accepted. Experiments were conducted by the engineers, with the result that a set of requirements was drawn up. It is believed that these are the first adequate precautionary measures ever formulated. Hammitt stated that the fatal explosion "could not have been prevented by a dozen sets of ordinances. From my investigation I have learned that the operator of that plant, whoever it was, had taken off the safety valve. He then plugged up the hole and lighted the heating pipe. Had the safety valve been in place and in working order, the pressure would have been relieved long before it reached the point where the tanks would explode."

GOVERNMENT AND FINANCE

Propose City Manager Plan for Philadelphia.

Philadelphia, Pa.—A city manager and a single council of sixteen members elected from senatorial districts are the main features of a proposed city charter, presented to the sub-committee on charter revision. Eight men nominated from the committee on charter revision, an organization representing the Committee of Seventy, chamber of commerce, bureau of municipal research and other bodies, are to draw up a new charter to supplant the Bullitt bill, under which Philadelphia has been governed for forty years. Clinton Rogers Woodruff, former president of the board of registration commissioners, submitted a plan based in its chief essentials, on the model city charter of the National Municipal League, of which Mr. Woodruff is secretary. John C. Winston is chairman of the committee and Frederick P. Gruenberg secretary. George Burnham, Jr., outlined some of the changes in the city government which the campaign proposes, as follows: A small council of not more than twenty-one members. Council empowered to hire a city manager, who should have sole charge of all

departments now under the mayor. The departments not under the mayor, except, perhaps, that of controller, should be brought under the city manager. The host of insignificant offices now nominally elective should be made appointive, or their duties transferred to other officials. "The present mayor and other directly elected administrative officials should not be disturbed," said Burnham. Members of the committee, with the organizations and individuals who appointed them, are: Chamber of Commerce—Alba B. Johnson, Howard B. French, James Collins Jones. Committee of Seventy—John C. Winston, Charles L. McKeehan, George W. Norris, John Hampton Barnes, Thomas Raeburn White. Bureau of Municipal Research—Frederick P. Gruenberg, Leo S. Rowe. United Business Men's Association—Edward B. Martin. Mayor—Joseph P. Gaffney. City Club—George Burnham, Jr., Louis J. Kolb. Citizens' Republican League—Ernest L. Tusin, Clinton Rogers Woodruff, Cyrus D. Foss, Jr.

A City Manager Experiment.

Glasgow, Mont.—S. C. Moore, secretary of the local commercial club, has been elected by the city council as manager of the city at a salary of \$100 a month. The operation of the new scheme is closely watched by people of Glasgow, as well as surrounding communities. The appointment of a city manager is an experiment on the part of the council and the appointee will hold office for three months.

Try to Oust "Alien" Mayor.

Williamsport, Pa.—Williamsport citizens have appealed to the attorney general for a decree ousting Mayor Jonas Fischer from office on the ground that he is not a naturalized citizen. Mayor Fischer took office Jan. 3. He has never shown his citizenship papers, and it is the opinion here that he took out preliminary but not final papers. Mayor Fischer says that he took out his papers forty years ago. The attorney general is asked that a writ of quo warranto be issued directing Mayor Fischer to show cause why he holds the office, and that a decree be made against him ousting him from office. Mayor Fischer was born in Austria 75 years ago, and before being elected mayor was president of an electric light company. He will probably carry the fight to higher courts.

Fight Constitutionality of Preferential Ballot.

Toledo, O.—The faction contesting Mayor Charles M. Milroy's election will carry its fight to the Ohio supreme court, following the announcement that the court of appeals had ruled in favor of the mayor. Originally the case was filed in common pleas court. The petition alleges that the preferential voting clause, provided for in the city charter, is unconstitutional. The common pleas court ruled against Dr. Charles W. McGuire, who contested the election. Then the case was carried to the appellate court. The ruling of this court in part: "The sole question presented in this case is whether the preferential system of voting is valid. At the recent election, no one of the three candidates received a majority of the first choice votes. The present mayor did receive the highest number of votes, counting first and second choice, and was duly declared elected. It (second choice voting) is a privilege that he (the elector) may avail himself of if he sees fit, as we fail to see how his rights as an elector are in any way or to any extent restrained or abridged by affording every voter the right to express a second choice if he wishes to do so."

Delinquent Tax Law Constitutional.

Yonkers, N. Y.—Supreme court justice Arthur S. Tompkins, in an opinion, upholds the constitutionality of the delinquent tax sale law of 1914, attacked by the Homesite Realty Company and the Valley Farms Company. The ruling is of the utmost importance, as it affirms the right of the city to foreclose on all tax liens. It affects more than \$4,000,000 of back taxes. The case in which the ruling was handed down was that of Jacob Kramer against the city of Yonkers, the Homesite Realty Company and the Valley Farms Company, and was a test case for the validity of the law. Kramer bought up delinquent tax certificates against the two realty companies and sued last fall to foreclose on them. The two realty companies fought the suit. The city, while named as one of the defendants, in reality was aligned

with the plaintiff to validate the right of foreclosure. The city was represented in the case by assistant corporation counsel Cohen. The realty companies maintained that the law under which the foreclosure proceedings were brought was unconstitutional. The case will undoubtedly be taken to the appellate division. The tax law of 1914 provides that after taxes have been delinquent for three successive years the tax certificates should be sold by the city. A year later, unless the back taxes with heavy interest and all costs are paid, the buyer has the right to foreclose on the certificates and take possession of the property. This law was drafted in an endeavor to permit the city to collect taxes from the dodgers, and was the first legislation that gave the foreclosure right. Justice Tompkins' decision finds "the law is retroactive, and that the legislature intended to authorize the city treasurer to sell property for taxes that were three or more years in arrears, at the time the act went into effect. The law itself, the making of the assessment, the levying of the tax, the public notice thereof and the notice of tax sale constitute all the notice that either the owner or the mortgagee is entitled to, and that, if either fails to redeem within one year, the holder of the certificate of sale may foreclose his lien. The statute requires that the notice of sale shall contain the same description of the lots and parcels as that given in the tax rolls. There is no proof that the lots in question were not described in the notice of sale by the precise description contained in the tax rolls, and in the absence of any proof to the contrary the court must assume that they were so described."

Ambiguity Nullifies Commission Vote.

West Hoboken, N. J.—Application for a writ of mandamus to compel the clerk of West Hoboken to call a special election to elect commissioners, has been denied in the supreme court circuit. The opinion hinged on the point as to whether the necessary thirty per cent of votes had been cast for commission government at the recent special election. The opinion interpreted the law to mean that the thirty per cent should be of the total votes cast at the last previous election and not of the votes cast for assembly candidates. Thirty per cent of the total vote at the last election was not cast for commission government, so that the ruling acts to nullify the commission government election in the Hudson County municipality. The decision turned on the meaning of "for" and "at which." Another point decided whether a "town" is a "city" under the Walsh act. In dismissing the proceedings, which were brought by Frederick A. Schwartz, Justice Swayze says in part: "The title of the act of 1915 shows that it was meant to regulate the procedure in towns as well as in cities and other municipalities, and the word 'city' is undoubtedly used in a general sense and means municipalities just as 'town' in the Constitution was held to include cities."

City Administration Indicted.

Haverhill, Mass.—The entire city government of Haverhill is charged with "neglect to suppress an unlawful assembly" in indictments returned by the Essex County grand jury, in connection with the rioting in Haverhill on April 3 last. Mayor Albert L. Bartlett and Aldermen Roswell L. Wood, Christopher C. Cook, Charles M. Hoyt, who is also commissioner of public safety, and Albert E. Stickney are named in the indictments. According to the district attorney, this is the first time that such a charge has been brought against a municipality in this state. The statute under which the indictments are found provides for a fine of not more than \$300, as a penalty when any mayor, alderman, selectman, justice of the peace, sheriff, or deputy sheriff who shall have knowledge of "riotous or tumultuous and unlawful assembly" in the city or town where he lives, neglects to exercise his authority for its suppression. The rioting resulted from an announcement that Thomas Leyden of Somerville, regarded as an anti-Catholic speaker, would discuss state appropriations for sectarian schools. The lecture was not delivered, as the crowd was largely antagonistic to the speaker. For hours the building was besieged by a shouting mob, many windows in it were broken, and rioters also attacked several private residences, including that of commissioner of public safety Hoyt.

STREET CLEANING AND REFUSE DISPOSAL

New Garbage Plan for Salt Lake.

Salt Lake City, Utah—After carefully considering the garbage disposal problem confronting the city, the special committee of commissioners, Heber M. Wells and Karl A. Scheid, named in April to investigate the matter, reported to the city commission has recommended that the city attorney be directed to draw up a contract with A. Retan to handle the garbage in accordance with a proposal submitted by him some time ago. The proposal of Retan is to have the garbage delivered to him at a receiving station after which he will handle it in a reduction plant of his own, using the byproducts to make his profits. The committee reports that Retan's proposition will effect a saving to the city of about \$4,825 annually in the handling of garbage, and the city will not be put to the expense of furnishing a site or a reduction plant. The period of the contract demanded by Retan is but fifteen years, while other propositions call for twenty. There were several propositions put to the commission. The Western Nu-Fuel Company wanted to handle the garbage in a reduction plant which would convert it into fuel, but it wanted the city to furnish a site for the plant and enter into a twenty-year contract. In all the proposals the reservation is made that garbage shall be considered as refuse matter that is reducible, such as food products and the like, but excludes ashes, rubbish and manure, and dead horses. At the present time the city is disposing of garbage that is not burnable by using it to fill in low places.

Night Cleaning for San Jose Streets.

San Jose, Cal.—Streets in the business section of the city will be swept and flushed every night hereafter, and the new practice of beginning the day with clean streets and keeping them clean all day long will be inaugurated. The announcement of this change in street cleaning methods and also of the enforcement of an ordinance which prohibits the sweeping of refuse and papers into the streets was made by city manager Thomas H. Reed. A rotary broom, a flusher and several men will work from 11 p. m., until 7 a. m. The mechanical equipment is antiquated and imperfect, but within its limitations the streets of the business section will be thoroughly cleaned. During the day members of the street cleaning department will pass through these streets with hand brooms and carts and gather up street refuse as it accumulates. The dirty condition of the streets during the day is greatly aggravated by the dust, papers and other filth swept into the street from stores. There is a city ordinance covering this subject, and it is the intention to enforce this ordinance.

The Staten Island "Garbage War."

New York, N. Y.—Beginning with several hours of concerted noise all over the island as a protest against Mayor Mitchell's plans to erect a garbage disposal plant on Staten Island, the residents of the island have gone through a number of complicated legal and illegal proceedings and have now obtained the intervention of Governor Whitman. When the plans for the erection of the plant became known, the citizens of the borough, commercial and civic organizations and borough officials united in protesting in every possible way against the threatened "nuisance." Finding no relief a number of schemes for blocking the erection of the plant by the contractors were resorted to by the indignant citizens. Watchmen were kidnapped, three small islands selected as plant sites were "captured" and night conflicts and mysterious boats made the whole "fight" an exciting romance. The Gaffney, Gahagan & Van Etten Company, contractors and owners of the Metropolitan By-Products Company, which is to erect the plant, sued the officials and prominent men of the borough for \$300,000 damages for injuries caused by delaying the work. The company closed a contract with the C. O. Bartlett & Snow Company of Cleveland, O., for two hundred reducers to cost \$460,000, to be delivered so that one hundred of them may be installed at the Staten Island plant by Nov. 1 of this year,

LEGAL NOTES

A Summary and Notes of Recent Decisions— Rulings of Interest to Municipalities

Obstructions in Sewers—Use of Fire Apparatus.

Hawkins et al. v. City of Springfield.—A city is not liable for negligence in failing or refusing to use fire equipment to pump water from an obstructed sewer to prevent sewer from overflowing.—Springfield Court of Appeals, Missouri, 186 S. W. R., 576.

Contracts—Issuance of Bonds—Garbage Disposal.

Riddle v. Atlantic City.—A city incorporated under P. L. 1902, p. 284, has no power, after it has made a contract for the removal and disposal of garbage, to purchase a plant in aid of the contractor, or to issue bonds to raise the money to pay therefor.—Supreme Court of New Jersey, 97 A. R., 790.

Power of Authorities to Grant Use of Street.

Wenter Bros. vs. Mays.—The city authorities, holding a street in trust for the public use, are without authority to grant the privilege of erecting a booth or conducting a private business in the street, and a permit granted by them for that purpose does not vest the holder with any right.—Court of Appeals of Kentucky, 186 S. W. R., 127.

Regulation of Motion Picture Business.

Brown v. Stubbs, Inspector of Buildings.—Ordinance of city of Baltimore requiring an applicant for license to erect a building to be used as motion picture show to first get a permit from the mayor and city council is not void as depriving a citizen of Baltimore of his property without due process.—Court of Appeals of Maryland, 97 A. R., 227.

Defective Streets—Snow and Ice—Liability.

Studer v. City of St. Joseph.—A city is liable only for unusual and especially dangerous formations of snow and ice becoming comparatively isolated obstructions to travel, but is not liable where the only danger to pedestrian is a general slipperiness caused by the alternate freezing and thawing of trampled snow.—Kansas City Court of Appeals, Missouri, 185 S. W. R., 1196.

"Premises"—Assessments for Improvements.

New York Central & H. R. R. Co. v. City of Buffalo et al.—Under Buffalo City Charter (Laws 1901, c. 228) § 288, declaring that the owner or occupant of any premises in the city shall, when ordered by the common council, lay sidewalks, and, if the work shall not be done within the specified time, it shall be performed by the city

the rest to be put on the ground as soon thereafter as possible. Secretary of War Baker was appealed to by the Staten Islanders on the ground that the garbage scows would injure navigation. Numerous injunctions were asked for by the citizens, all denied. Old titles were dug up and used to get control of the situation. Edward P. Doyle, leader in the fight, planted oysters along one island and asked that the bed be registered with the Conservation Commission of Albany and the contractors be prohibited from work on the island. Then two hundred citizens went to Governor Whitman with their project. The three main points were that the dribble from the garbage scows would violate the public health law against dumping of refuse, and the law would also be violated as no necessary permit had been obtained from the State Health Commission; in addition, an old treaty giving the State of New Jersey quarantine and health regulation of the shore of Staten Island was claimed to be operative. The New Jersey State Board of Health has been appealed to for intervention. Superintendent of public buildings of Richmond County refused a permit for the plant on technical grounds. Governor Whitman finally instructed State Health Commissioner Herman M. Biggs to begin an investigation of the plant with reference to health conditions, and promised to prohibit it if the commissioner finds it a menace.

and the cost assessed upon the premises, railroad tracks running through a cut in a street are not "premises" within the charter, that expressly referring to property abutting on the street, and the cost of laying a sidewalk beside such tracks cannot be assessed on the tracks, the railroad company not owning the street.—Court of Appeals of New York, 112 N. E. R., 721.

Injuries on Streets—Exemptions from Liability.

Mayor and Council of City of Hagerstown v. Crowl.—Where a city omits to provide safeguards reasonably necessary to protect the public from dangers occasioned by building operations in immediate proximity to the streets, it cannot be exempted from liability for the consequences of such omission merely because the particular accident is different in nature or degree from those which might ordinarily result.—Court of Appeals of Maryland, 97 A. R., 545.

Public Improvements—Assessments—Review.

Town of Montclair v. Brewster, et al.—The power conferred by section 71 of the Town Act (4 Comp. St. 1910, p. 5549), upon municipal councils to revise the action of boards of assessors in assessing the cost of public improvements upon lands and real estate benefited thereby is limited to those assessments which are made the subject of objection before council by the owners of property upon which such assessments are made, and does not warrant council in sending back to the board for alteration or correction assessments which are accepted as fair and just by all parties interested therein.—Supreme Court of New Jersey, 97 A. R., 255.

Actions—Notice—Conditions—"Near."

Casey v. City of New York—Under Laws 1886, c. 572, § 1, providing that an action for damages against a city of over 50,000 population cannot be maintained unless notice of the intention to commence such action and the time and place at which the injuries were received shall have been filed with the corporation counsel within six months, a notice which stated that an accident happened "at a hole in the pavement on the public highway at about Washington street, near Vestry street, in the borough of Manhattan, in the city of New York," was not a sufficient notice; as "near" means "not distant from," and is wholly relative, and locates nothing with any degree of precision.—Court of Appeals of New York, 111 N. E. R., 764.

Ordinances on Chimneys—Construction.

Tarrance v. Chapman et al.—An ordinance, touching the construction of chimneys and flues, and providing for notice by an inspector to the owner of any dangerous condition, providing a penalty for failure to place such apparatus in safe condition after notice, and that a chimney shall form a part of the wall or rest on it or on iron hangers, and that the provision is not an exclusive statement of every dangerous condition, and providing, further, that all chimneys, flues, or heating apparatus constructed prior to a certain date shall be considered safe if made to conform to the requirements stated, is not violated by one whose house had been previously constructed, after such person has been notified by the inspector as provided therein.—Supreme Court of Alabama, 71 S. R., 707.

Illegal Contracts—Right of Taxpayer.

Konig v. Mayor and City Council of Baltimore et al.—While the mere fact that a municipality can make a good bargain does not authorize it to violate its charter, yet where it appears that the contract was a decided benefit to the city and that the violation was an honest mistake, and not intentional, no fraud, collusion, or unjust treatment is shown, and the plaintiff, after filing his bill for injunction, did nothing until after the time when the contractor was required to complete the work, and no actual damage is shown either to plaintiff or other taxpayers, a court of equity will not decree that the contractor forfeit either the consideration paid or unpaid, but in view of the technical violation, will decree that plaintiff have his costs and an injunction for any uncompleted portion of the contract.—Court of Appeals of Maryland, 97 A. R., 837.

Market Place—Power to Require License—Prescription.

Commonwealth v. Clay.—That for nearly 100 years a market place has been used by market men without a charge does not give any of them a prescriptive right to a stand without a payment of license fee imposed by ordinance, where during such time ordinances have been passed regulating the market.—Supreme Judicial Court of Massachusetts, Essex, 112 N. E. R., 867.

Special Assessments—Failure to Levy—Liability.

Mecartney v. City of Chicago.—Where a city condemned property for street widening, to be paid for, as far as possible, by special assessments against the property benefited and the balance in excess of the benefits to be paid from the general funds of the city, the fact that the city's right to levy special assessments had not been exhausted does not prevent recovery against it for damages caused by its wrongful failure to levy such assessments.—Supreme Court of Illinois, 112 N. E. R., 675.

Personal Injuries—Notice—Waiver.

White v. Mayor and City Council of Nashville.—Under statute, the fact that plaintiff pointed out to the legal officers of the municipality the place of her injuries and gave them verbal notice thereof does not excuse a failure to give the written notice, the purpose of the act being to provide written notice to the mayor and municipality, and it not appearing that the law officers of the municipality were authorized to waive such notice.—Supreme Court of Tennessee, 185 S. W. R., 721.

Regulation of Rates—Reasonableness—Burden of Proof.

City of Tipton v. Tipton Light and Heating Co.—The act of a city, empowered thereto by Code, 1897, § 725, in fixing rates to be charged for electric light, is presumed to have been in the proper exercise of the power conferred, and the rate established by its ordinance is presumed to be reasonable, and, if it is attacked as being unreasonable, the only question which the court can consider is whether its enforcement will deprive the corporation of fair compensation for the services rendered.—Supreme Court of Iowa, 157 N. W. R., 845.

Pension Funds—Rights of Employees.

State ex rel. King v. Board of Trustees of Firemen's Pension Fund of Kansas City.—Governmental employes can have no property in a pension fund, nor can those claiming under them have any such right, except their claim be based upon and come within the laws governing the funds, and the city's retention of a part of a fireman's salary and the placing of it in the relief fund, as authorized by Rev. St. 1909, section 9888, part of the firemen's pension act, does not make it any the less a public fund, nor do the moneys going into said fund cease to be public moneys.—Kansas City Court of Appeals, Missouri, 184 S. W. R., 929.

Taxation—Exemption—"Manufactory."

City of Louisville v. Louisville Tin and Stove Co.—Under an ordinance of the city of Louisville enacted July 29, 1899, pursuant to Const. § 170, and Ky. St. § 2980a, authorizing municipalities to exempt manufacturing establishments from municipal taxation for a period not exceeding five years as an inducement to their location, the business of defendant corporation, which from its incorporation in 1888 conducted a stove and tin business, and in whose tinshop 20 men were employed part of the time in assembling tinware by using the tops, ears, and bails of buckets, the spouts, handles, and tops of coffee pots, and the legs and doors of drum stoves, and sheet tin cut and shaped to fit the purchased parts and soldered to finish the articles, though its chief business consisted in selling articles manufactured by others, was a "manufactory," as it is not necessary for a business to be a "manufactory" that it make articles altogether from raw materials; so that its plant, established in 1906, in which it manufactured a larger line of tinware and stoves, was a mere expansion of its former manufacturing business, and its property was not exempt under the ordinance.—Court of Appeals of Kentucky, 186 S. W. R., 124.

NEWS OF THE SOCIETIES

Calendar of Meetings.

Aug. 7-9.—CITY MARSHALS' AND POLICE CHIEFS' UNION OF TEXAS. Annual convention, Houston, Tex.

Aug. 8-10.—OHIO POLICE CHIEFS' ASSOCIATION. Annual convention, Cedar Point, O. Secretary, Ex-Chief James Stamberger, B. Cleveland, O.

Aug. 8-11.—DOMINION ASSOCIATION OF FIRE CHIEFS. Annual convention, Windsor, Ont. Secretary, James Armstrong, Kingston, Ont.

Aug. 15-18.—FIREMEN'S ASSOCIATION OF THE STATE OF NEW YORK. Annual convention, White Plains, N. Y.

Aug. 16.—CONNECTICUT FIRE CHIEFS' CLUB. Annual convention, Thompsonville, Conn.

Aug. 16-17.—CONNECTICUT STATE FIREMEN'S ASSOCIATION. Annual convention, Thompsonville, Conn.

Aug. 16-18.—LEAGUE OF WISCONSIN MUNICIPALITIES. Annual meeting, Oshkosh, Wis. Secretary, Ford H. McGregor, Madison, Wis.

Aug. 17-19.—TEXAS GOOD ROADS ASSOCIATION. Annual meeting, Modina Lake, San Antonio, Tex. Secretary, D. E. Colp, San Antonio, Tex.

Aug. 21-27.—PACIFIC COAST ASSOCIATION OF FIRE CHIEFS. Annual convention, San Diego, Cal.

Aug. 22-24.—UTAH STATE FIREMEN'S ASSOCIATION. Annual convention, Salt Lake City, Utah.

Aug. 22-25.—INTERNATIONAL ASSOCIATION OF MUNICIPAL ELECTRICIANS. Annual convention, Baltimore, Md. Secretary, Clarence R. George.

Aug. 23-25.—VIRGINIA STATE FIREMEN'S ASSOCIATION. Thirteenth annual convention, Harrisonburg, Va. Secretary, J. E. Glenn, Harrisonburg.

Aug. 28-31.—NATIONAL TAX ASSOCIATION. Tenth annual conference, Indianapolis, Ind.

Aug. 29-31.—LEAGUE OF CITIES OF THIRD CLASS IN PENNSYLVANIA. Seventeenth Annual Convention, Johnstown, Pa. Secretary, Fred H. Gates, City Clerk, Wilkes-Barre, Pa.

Aug. 29-Sept. 1.—INTERNATIONAL ASSOCIATION OF FIRE ENGINEERS. Annual convention, Providence, R. I. Secretary, James McFall, Roanoke, Va.

Sept. 4-8.—SOUTHERN APPALACHIAN GOOD ROADS ASSOCIATION. Ninth annual convention, Lexington, Ky. Secretary, Dr. Joseph Hyde Pratt, Chapel Hill, N. C.

Sept. 6-9.—LEAGUE OF AMERICAN MUNICIPALITIES. Annual convention, Newark, N. J.

Sept. 13-15.—NEW ENGLAND WATER WORKS ASSOCIATION. Convention, Portland, Me. Secretary, Willard Kent, Narragansett Pier, R. I.

Sept. 13-15.—WASHINGTON STATE ASSOCIATION OF COUNTY COMMISSIONERS. Annual meeting, Tacoma, Wash. Secretary, J. C. Hansen, Port Angeles, Wash.

Sept. 18-20.—ILLUMINATING ENGINEERING SOCIETY. Annual Convention, Philadelphia, Pa. Asst. Secretary, C. D. Fawcett, 29 West 39th street, New York City.

Sept. 20-22.—MASSACHUSETTS STATE FIREMEN'S ASSOCIATION. Annual convention, Gloucester, Mass. Secretary, D. Arthur Burt.

Sept. 26-28.—LEAGUE OF VIRGINIA MUNICIPALITIES. Annual meeting, Clifton Forge, Va. Secretary, Luther C. Brinson, Portsmouth, Va.

Oct. 2-6.—PLAYGROUND AND RECREATION ASSOCIATION OF AMERICA. Congress, Grand Rapids, Mich. Secretary, H. S. Braucher, 1 Madison avenue, New York City.

Oct. 9-11.—NATIONAL HOUSING ASSOCIATION. Annual meeting, Providence, R. I. Secretary, Lawrence Veiller, 105 East 22d St., New York City.

Oct. 9-13.—AMERICAN ELECTRIC RAILWAY ASSOCIATION. Annual convention, Atlantic City, N. J. Secretary, E. B. Burritt, 8 West 40th street, New York City.

Oct. 9-13.—AMERICAN SOCIETY OF MUNICIPAL IMPROVEMENTS. Twenty-third Annual Convention, Robert Treat Hotel, Newark, N. J. Secretary, Charles

Carroll Brown, 702 Wulsin Building, Indianapolis, Ind.

Oct. 11-13.—LEAGUE OF KANSAS MUNICIPALITIES. Annual meeting, Independence, Kan. Secretary, C. H. Talbot, University of Kansas, Lawrence, Kan.

Oct. 16-21.—NATIONAL SAFETY COUNCIL. Fifth Annual Safety Congress, Detroit, Mich. Secretary, W. H. Cameron, Continental and Commercial Bank, Chicago, Ill.

Oct. 17-20.—AMERICAN GAS INSTITUTE. Annual meeting, Chicago, Ill. Secretary, G. G. Ramsdell, New York City.

Oct. 24-27.—AMERICAN PUBLIC HEALTH ASSOCIATION. Annual Convention, Cincinnati, O. Secretary, Prof. Selikar M. Gunn, Boston, Mass.

Nov. 15-16.—NATIONAL CONFERENCE ON UNIVERSITIES AND PUBLIC SERVICE. Third annual conference, Philadelphia, Pa. Secretary, Edward A. Fitzpatrick, Box 380, Madison, Wis.

Dec. 27-30.—AMERICAN ECONOMIC ASSOCIATION. Annual meeting, Columbus, Ohio. Secretary, A. A. Young, Ithaca, N. Y.

Dec. 27-30.—AMERICAN STATISTICAL ASSOCIATION. Annual meeting, Columbus, O. Secretary, Carroll W. Doten, 491 Boylston street, Boston, Mass.

Feb. 5-12, 1917.—AMERICAN ROAD BUILDERS' ASSOCIATION. Seventh American Good Roads Congress and Eighth National Good Roads Show, Mechanics' Hall, Boston, Mass. Secretary, E. L. Powers, 150 Nassau street, New York City.

Pennsylvania City Planning League.

Organization of a state-wide city planning league for cities of the third class was effected by representatives of fourteen municipalities, who met at Harrisburg, July 11. One member from every city represented was named on the executive committee.

Officers elected are: President, M. Farquhar, president York city planning commission; vice-president, E. S. Herman, president Harrisburg city planning commission; secretary, John Herman Knisely, state municipal statistician; treasurer, John Strauffer, secretary, Reading city planning commission.

Following the conference, state officials of the department of labor and industry, headed by Dr. John Price Jackson, together with city officials and city planning commissioners of Harrisburg, escorted the delegates around the capital.

Among leading cities represented were Erie, Harrisburg, York, Reading, Johnstown, Chester, New Castle and Lock Haven.

Health Officers' Conference.

The eighteenth annual school of instruction for the health officers of the state of Vermont, conducted by the Vermont state board of health, opened July 5, when the first session of the school was held at the assembly hall of the Burlington high school.

Dr. C. S. Caverly, president of the Vermont state board of health, presided over the meeting, calling upon Mayor Albert S. Drew, who welcomed the health officers on the part of the city of Burlington.

Prof. J. W. Votey opened the second day's program with a paper on sewerage disposal for small villages. Dr. Wright, of Wilmington, spoke on

"Nuisances," and H. H. Wheeler, of South Burlington, took up "Pediculosis."

At the afternoon session the specific subject of Milk was discussed. Dr. E. R. Kelley, of the Massachusetts state board of health, spoke on "Vermont Dairy Conditions as Judged by Massachusetts Requirements." Dr. C. F. Whitney, of the state laboratory force, talked on "Dangers from Milk Infection and How to Prevent Them," and E. S. Brigham, of St. Albans, commissioner of agriculture, spoke on the "Milk Situation in Vermont."

"Infantile Paralysis" was the topic for the evening with addresses by Dr. Charles S. Caverly, president state board of health; Dr. Robert W. Lovett, surgeon Children's Hospital, Boston, Mass.; Dr. Harold L. Amoss, Rockefeller Institute, New York City; Dr. E. G. Martin, Harvard University, Boston.

Dr. C. S. Caverly also gave his annual address to the health officers. He spoke of Burlington's all time health officer and of the need for such in all parts of the state. He made the suggestion to the city not to be too penurious with the health officer now that one is working all the time.

All health officers, he said, are outrageously underpaid and none are very liable to be charged with grafting.

In an investigation carried on by the American Public Health Association two or three years ago through a committee picked from all parts of the country it was found that the scale of wages of the health officers ranged all the way from 1.22 to five-eighths of a cent per capita of population. If Burlington was paying according to the percentage which was figured should be paid, it would be paying from 50 to 60 cents per capita and the health department and officer would cost about \$10,000 annually.

Georgia Association of Chiefs of Police and Town Marshals.

As the result of prohibition, the work of the police has been cut fifty per cent, and there are prospects that the police forces may be reduced soon, according to the statements of the chiefs of police at the convention of the Georgia Association of Chiefs of Police and Town Marshals, held at Savannah, July 5.

Further, public sentiment is considered by these chiefs to be overwhelmingly for the continuation of the prohibition laws. Such expressions as are given are based upon the experience of the officers since May 1, when the prohibition law became operative throughout the state.

Statements were asked relative to the cut or increase of work for the department, general business conditions before and since May 1, drunkenness under prohibition laws as compared with the open saloon laws, amount of illicit traffic in liquor, public sentiment on the open saloon and the dry laws, trouble in enforcing the prohibitory statutes and the disposition of violators of the law.

Chief L. M. Sumner, of Cordele, president of the association, said: "Work has been reduced fully fifty per cent for our police department. We have few violations of the law, and strict sentences are the rule for violators. When the law was passed, our mayor served notice that the extreme penalty would befall bootleggers in Cordele. He has lived faithfully to this promise, too. The drunken man is a curiosity in Cordele—we had only one drunk on the docket all last week. Business is excellent and improving. Cordele is an old line prohibition town and illicit business cannot stand public sentiment long there."

"Our chief trouble accrues from motorists passing through from Jacksonville. We are on the national highway and many parties bring in liquor by automobile. However, summary justice to these violators is decreasing our trouble on this score."

Electrical Contractors of California.

Electrical contractors and dealers of California assembled in their seventh annual convention at Stockton, July 15, and elected officers for the coming year.

Frank J. Somers, of San Jose, was chosen president. Vice-presidents for the various districts of northern Cali-

(Continued on page 114)

PERSONALS

Whittemore, Don Juan, an international authority on bridge and tunnel building, and for more than fifty years connected with the engineering department of the Chicago, Milwaukee & St. Paul Railroad, died on July 17 at his home in Milwaukee, Wis., in his eighty-seventh year.

He was born in Milton, Vt., and after being graduated from the Bakersfield Academy joined the engineering staff of the Vermont Central Railway, later going with the Western Railway of Canada and the Central Railway of Ohio.

Mr. Whittemore became chief assistant engineer of the La Crosse & Milwaukee Railroad, where he served four years, and then was made chief engineer of the Southern Minnesota Railway and assistant chief of the Western Railway of Cuba. He later returned to the La Crosse & Milwaukee and in 1863 joined the Chicago, Milwaukee & St. Paul, where he remained until 1910, retiring as consulting engineer of the road. He was a former president of the American Society of Civil Engineers and had received the degree of C. E. from the University of Vermont, and those of Ph. D. and LL. D. from the University of Wisconsin.

Blair, A. E., has been appointed building inspector of Lawrence, Kan.

Cook, P. F., has been appointed tenement house commissioner of New Jersey, succeeding M. W. Beemer, resigned.

Elrod, Henry Exall, and associates, consulting engineers specializing in sewerage, sewage disposal, waterworks, appraisals and reports, have moved from the former offices in the Southwestern Life Building to more efficient and commodious quarters in the new Interurban Building, Jackson and Browder streets, Dallas, Tex.

Hamilton, Charles A., Jr., a sergeant on the Roanoke, Va., police force, has been appointed chief to succeed Edward R. Moore, who died recently.

Irvine, F. A., was recently made city engineer of Jamestown, N. Y.

Leyden, John J., deputy chief and for 27 years a member of the Denver, Colo., police department, has resigned.

Miller, Rudolph P., has been made chairman of the new Board of Standards and Appeals of New York City. Mr. Miller has for the past two years directed the revision of practically the entire building code of that city with the exception of sections relating to theaters. That section was recently taken up by the committee on buildings. He was made superintendent of buildings in 1910. Previous to that he had a consulting practice in New York.

Murdock, R. B., was recently made assistant engineer in the Oregon State Highway Department. He will have charge of surveys to be made for highway work in Coos County, for which \$362,000 was recently voted. Mr. Murdock was previously roadmaster of Coos County.

PROBLEMS CITIES ARE STUDYING WITH EXPERTS

A SEWERAGE system is to be built by Ellis, Kan., Black & Veath, 507 Interstate Building, Kansas City, Mo., having completed the plans.

In the making of extensive improvements to the municipal POWER PLANT of the town of Front Royal, Va., E. V. Dunstan, 3420 36th street, Washington, D. C., acted as consulting engineer.

Chino, Cal., is to construct a SEWER SYSTEM. Olmsted & Gillelen, Hollingsworth Building, Los Angeles, Cal., were the engineers who designed the plans.

Coshocton, O., is to have a new SEWAGE DISPOSAL plant, to cost \$30,000, designed by Chester & Fleming, consulting engineers, Union Bank Building, Pittsburgh, Pa.

A pumping station, intake and other structures are improvements planned for the WATERWORKS of Matheson, Ont., and McAuslen & Anderson, North Bay, Ont., prepared plans and specifications for the project.

A SEWER SYSTEM and WATERWORKS are to be constructed by the town of Riverton, Wyo., from plans prepared by C. C. Carlisle, consulting engineer, 212 First National Bank Building, Cheyenne, Wyo.

The WATER SUPPLY system, including well, tank, pumping station and mains, of the village of Glenview, Ill., is to be extended and Marr, Green & Co., civil and sanitary engineers, 17 North LaSalle street, Chicago, Ill., designed the improvement.

In the APPRAISAL of the WATERWORKS system, City Water Company, Chattanooga, Tenn., the city's engineer, J. N. Hazlehurst, and the company's representative, William Wheeler, worked with John W. Alvord, of Alvord & Burdick, consulting engineers, Hartford Building, Chicago, Ill., who acted as "neutral" expert.

A number of the BRIDGES of Johnstown, Pa., have shown signs of dangerous conditions due to deterioration from age and inadequate maintenance of the structures. One of these col-

lapsed a few months ago and many narrowly escaped death. In order to remedy the situation the council employed the Farris Engineering Company, Pittsburgh, Pa., to make an investigation and the report has just been submitted.

West Wyoming, Pa., is to have new STREETS constructed according to plans made by Boyle & Howe, 401-7 Bennett Building, Wilkes-Barre, Pa.

Lexington, Ky., is to construct new SEWAGE DISPOSAL works. The Solomon, Norcross Company, Atlanta, Ga., acted as consulting engineers in the design of the plans for the improvement.

In improving its municipal LIGHT PLANT, Lebanon, Ill., had plans prepared by the Fuller-Coult Company, consulting engineers, Chemical Building, St. Louis, Mo.

In constructing a SEWAGE DISPOSAL plant in Berlin township, Delaware, O., had the consulting engineering services of the Richards Engineering Company, 37½ E. Long street, Columbus, O.

The village of Chevy Chase, Md., is making a number of STREET improvements, including cement sidewalks, concrete roadways and curbs and laying drainage pipe and appurtenances. David J. Howell & Son, civil engineers, 818 Union Trust Building, Washington, D. C., made the plans.

The city of Alba, Tex., is to construct a modern WATERWORKS SYSTEM to cost approximately \$25,000. Henry Exall Elrod, Interurban Building, Jackson and Browder streets, Dallas, Tex., has been retained as consulting engineer to design and supervise the construction of the project.

Boston, Mass., is entering on a big PAVING project, it being planned to lay more than \$400,000 worth of granite block. In order that the work be done under the best conditions, Paul Lannagan, formerly street commissioner and director of engineering in Lawrence, Mass., and largely responsible for the success of granite block there, has been appointed as consulting engineer on the project.

NEW APPLIANCES

Describing New Machinery, Apparatus, Materials and Methods and Recent Interesting Installations.

FOUR-WHEEL DRIVE TRUCK.

Hauls Crushed Stone Over Track.

A rather interesting and unusual use of the motor truck is illustrated in the picture on the next page. This four-wheel drive truck, in the service of the Hanlon & Oakes Co., contractors, of Sioux City, Ia., is used in place of a locomotive to draw a string of heavily loaded trailers on a narrow gauge track. The truck itself straddles the rails, and it is interesting to note that enough traction is secured to pull the train easily up a five per cent grade, although no load whatever is carried on the body of the truck.

The crushed rock, gravel and cement hauled by this outfit are being used in the construction of a 16-foot concrete highway going north from Sioux City on what is known as the Perry Creek road. The large amount of material hauled is indicated by the fact that from 500 to 600 linear feet of pavement are being laid daily. The track is four miles in length and ten round trips are made each day. Each trailer carries 1½ yards of gravel or crushed rock, making a total pay-load of 24 to 26 tons. The truck pulls this load while running in high gear, and travels at 12 to 15 miles per hour.

Fifty teams and wagons were unable to do the work which is now being done by this truck and string of trailers, according to the contractor, and a great saving in cost is effected. The

average daily cost of operating the truck and trailers in this service is \$17.

The photograph shows the truck, which is a 3-ton size, hauling 26 tons of crushed stone. The truck is made by the Four Wheel Drive Auto Company, Clintonville, Wis.

AUTO-EDUCTOR.

For Cleaning Catchbasins.

The work of cleaning sewer catchbasins so that the system is kept in good condition is a very expensive item in the cost of maintenance. The hand cleaning is a slow, disagreeable, inefficient and costly process. The material is difficult to handle in any other way so that not much progress has been made in methods until recently. There have been in the past few months a number of demonstrations of an apparatus for solving the catchbasin problem.

The Otterson Auto-Eductor consists essentially of a pumping device and a tank for holding the material, the whole mounted on a Kelly-Springfield truck. The power for operating this pump comes from the truck motor. The tank holds 1,200 gallons. The pump is lowered into the catchbasin and water is pumped to force the material up a pipe and to flush out the basin. The material comes up into the tank, whereby a special arrangement of compartments, the solids, sand and de-

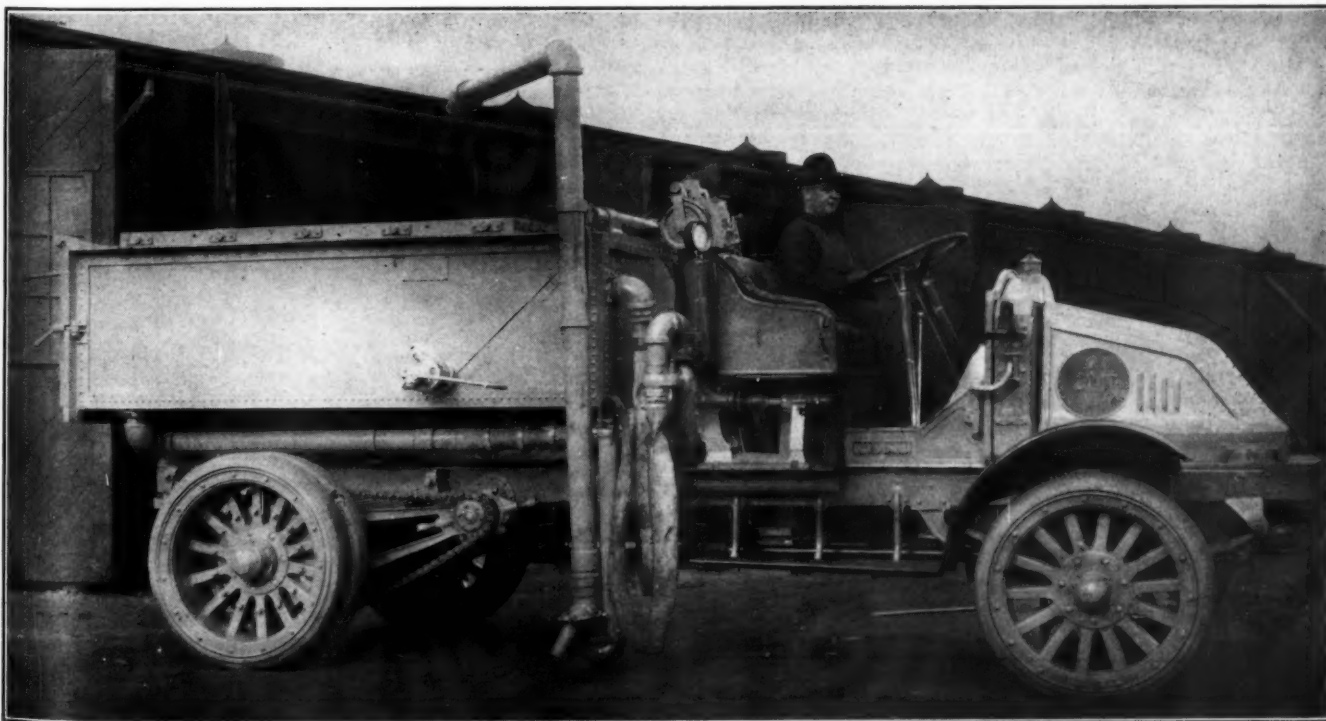
bris, etc., drop to the bottom while the lighter material flows through partitions into different compartments. The water passes round and is pumped again.

A five-ton truck will handle five cubic yards of material. The full truck is run to the dump, the end gate is quickly opened by means of a lever and the body is slowly dumped. The water in the tank is used to flush out the receptacle.

It is claimed that the cost of cleaning manholes is cut 75 per cent with the auto-eductor. Only about six minutes are required for cleaning a basin and machines in service are doing about forty or fifty a day. Forty cents is the estimated cost of cleaning a basin with the machine. Only a chauffeur and a helper are needed to operate the outfit, which is very simple to handle. City engineer A. H. Dimock, of Seattle, Wash., has found that the eductors in service there have proved very efficient and economical.

The machine has been successfully demonstrated before city manager Waite of Dayton, O., city manager Charles E. Asburner of Springfield, O., and a number of Dayton, Springfield and Louisville, Ky., officials.

The accompanying illustration shows the auto-eductor, which was invented and is being manufactured by George W. Otterson, 728 South Fountain avenue, Springfield, O.



THE OTTERSON AUTO-EDUCTOR FOR CLEANING CATCHBASINS.

INDUSTRIAL NEWS

Cast Iron Pipe.—Chicago—Pipe business continues very light, particularly from municipal sources. The American Cast Iron Pipe Company has taken 200 tons at Springfield, O.; James B. Clow & Son, a small order at Michigan City, Ind., and the leading interest 130 tons of special pipe at St. Louis. Specifications against contracts are fair. Quotations: 4-inch, \$33.50 to \$34; 6-inch and larger, \$30.50 to \$31; Class A, \$1 extra. Birmingham—Several export inquiries are under consideration by the Birmingham water pipe manufacturers and they expect to get the orders. New business in small lots both from the south and the middle west has aggregated a good volume. The disposition to go slowly in contracting for forward delivery is still manifested by municipalities. Prices are unchanged. Quotations: 4-inch, \$28; 6-inch and up, \$25; 16-foot lengths, \$1 extra. San Francisco—With prospects of a \$2 per ton advance in freight Sept. 1, and nothing to indicate reduction in foundry prices, many consumers are disposed to anticipate requirements, and small orders are quite numerous. No new important municipal inquiries have appeared in the last three weeks, however, and no great tonnage from such source is in sight. The town of Lovelock, Nev., will shortly take alternate bids for a lot of cast-iron or steel pipe. Woodland, Cal., has sold a \$71,000 bond issue for waterworks. New York—On July 20, Atlantic City received bids for 1,700 tons of 6, 8, 12 and 20-inch pipe and on July 25 New York City took bids on 120 tons of 6 and 8-inch pipe and fittings. The Standard Cast Iron Pipe Company was low on 300 tons for Jersey City. Makers are catching up slightly on delivery dates on 4 and 6-inch pipe, but competition is severe for the large sizes. Prices are unchanged and carload lots of 6-inch, Class B and heavier, are quoted at \$30.50 per net ton; Class A, \$31.50.

Lead.—Lead is quiet and a further reduction by the leading interest is looked for. Quotations: New York, 6.25 cents; St. Louis, 6.10.

The Trussed Concrete Steel Company, Youngstown, O., has won in the suit brought by the Berger Manufacturing Company. The latter alleged certain infringements made by the Kahn pressed steel construction on a patent granted in 1901 to William L. Caldwell. Judge John A. Clarke, of the U. S. District Court, held the patent "void for want of patentable novelty and invention" and dismissed the case.

The Barber Asphalt Paving Company, Philadelphia, Pa., has just published a new pamphlet, entitled "It Is Up to You," which describes vividly the claims of superiority of natural (Trinidad and Bermudez) asphalts over manufactured asphalt. Every point is simply and clearly illustrated.

The Federal Motor Truck Company, Detroit, Mich., has just issued its new "Blue Book of Traffic." The book is very handsomely gotten up and the story of Federal trucks is interestingly told in descriptions and pictures of the truck in many services.

Pawling & Harnischfeger Co., Milwaukee, Wis., has issued a new bulletin, No. IX (third edition), describing the "P & H" pipe line excavator—and also the backfiller and tamper. The excavator is completely illustrated by photographs of the machine at work.

The Goodyear Tire & Rubber Company, Akron, O., has just issued the general catalog. The catalog includes all products manufactured by the company that automobile, motorcycle, bicycle, hardware and tire dealers, garage owners and vulcanizers can properly retail or consume. In it can quickly be found the types and sizes of any article needed. A brief outline of sales arguments for the various products listed is very convenient. Chapters are devoted to Goodyear service stations, Goodyear advertising, tire savers, repair materials, automobile, motorcycle and bicycle tires, rims and mechanicals, including hose, packing, matting, etc.

NEWS OF THE SOCIETIES

(Continued from page 112)

fornia were as follows: H. C. Reid and M. L. Scobey, San Francisco; M. F. Nagel and J. Gensler, Oakland; M. L. Youdall, Stockton; C. V. Schneider, Sacramento, and W. E. Hayes, Santa Rosa. The secretary-treasurer, who is appointed by the executive committee, will be J. W. Redpath.

State of New York—The Civil Service Commission.

September 2, 1916.

Open competitive examinations for the State service will be held in various cities throughout the State, Sept. 2, 1916, for the positions mentioned below. An intending competitor must execute an application blank and file it in the office of the commission on or before Aug. 23, 1916.

163. **Sanitary Engineering Draftsman**, State Department of Health, \$900 to \$1,200. Men only. Applicants must be sanitary or civil engineering graduates from schools of the highest standing; or must have had at least two years' engineering education in such schools and one year of satisfactory practical experience in sanitary engineering work; or equivalent education and experience satisfactory to the Commission. Subjects of examination and relative weights: Problems involving knowledge of water supply and sewerage engineering including chemistry and biology of water and sewage, drafting of appurtenant structures, 6; experience and education, 4.

164. **Superintendent of Landscape Construction**, Bronx Parkway Commission. Salary \$2,000 to \$2,200 per annum. Men only. Applicants must be possessed of more than ordinary executive ability and capable of taking full charge of foremen and laboring forces engaged in the work of landscape construction and general park maintenance; must have completed thorough course in landscape architecture; ability to design and execute details is a requirement secondary only to capacity to efficiently handle a large force on landscape construction. Subjects of examination and relative weights: Questions relating to the duties of the position, 6; experience and personal qualifications (in connection with which an oral examination may be held),

Applications will not be sent out by mail after Aug. 21.

For blank apply to State Civil Service Commission, Albany, N. Y.



A FOUR-WHEEL DRIVE TRUCK HAULING 26 TONS OF STONE ON RAILWAY TRACK.

ADVANCE CONTRACT NEWS

ADVANCE INFORMATION BIDS ASKED FOR

CONTRACTS AWARDED ITEMIZED PRICES

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we cannot guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also correction of any errors discovered.

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
STREETS AND ROADS.				
Ind.	Greenfield	10 a.m., July 29	Constructing 5 gravel roads	H. J. Rhue, County Auditor.
Ind.	Peru	10 a.m., July 29	Constructing gravel and concrete roads	F. K. McElheny, Co. Aud.
Ind.	Muncie	10 a.m., July 29	Two Tarvia macadam roads	F. M. Williams, Co. Auditor.
Kan.	Olathe	July 29	Macadamizing on Abbott road	G. Pike, Co. Engineer.
Ind.	Greenfield	10 a.m., July 29	Large quantity of crushed stone	County Auditor.
Miss.	Corinth	July 31	16 miles of gravel road	N. C. Rinehart, Engr.
R. I.	Providence	2:15 p.m., July 31	Paving with sheet asphalt	City Engineer.
O.	Bowling Green	1 p.m., July 31	Macadamizing and applying tar and bituminous binders and constructing earth road	R. S. Gillespie, Co. Aud.
Minn.	St. Paul	10:30 a.m., July 31	Grading and improving streets	H. W. Austin, Pur. Agent.
La.	Keokuk	July 31	35,000 sq. yds. concrete pavement	O. W. Sandberg, City Clerk.
Mich.	Bay City	9 a.m., July 31	Laying permanent pavement	F. P. S. Kelton, Chm. B. P. W.
Ill.	Cicero	8 p.m., July 31	Concrete pavement and sidewalks	Chas. Stoffel, Town Clerk.
Colo.	Denver	11 a.m., July 31	Laying concrete pavement	W. F. R. Mills, Mgr. Improvements & Parks.
Va.	Richmond	noon, July 31	Two miles gravel road in Norfolk County	G. P. Coleman, St. Hwy. Comr.
N. J.	Mt. Holly	July 31	Repaving with concrete and macadam	Jas. Logan, Co. Engr.
O.	Springfield	noon, July 31	Paving and improving Fountain Ave.	C. E. Ashburner, City Mgr.
Mont.	Helena	July 31	Paving with reinforced concrete	City Clerk.
N. Y.	New York	10:30 a.m., July 31	2,010 malleable c. l. street sign frames with enamel signs	Douglas Mathewson, Pres. Boro Bronx.
N. Y.	Watervliet	July 31	Constructing bridges, grading and rip-rapping road	Solomon, Norcross & Kels, Engineers.
N. J.	Audubon	July 31	45,000 sq. yds. concr. and 25,000 sq. yds. macadam road	J. J. Albertson, Engineer.
N. D.	Mandan	July 31	Laying first-class pavement	W. H. Seitz, City Aud.
Wis.	Edgerton	7:30 p.m., July 31	2,000 ft. reinf'd concr. pav'ts and comb'd curb and gut.	City Clerk.
Pa.	Beaver	10 a.m., Aug.	Driveways and walks at County Home	County Commissioners.
Minn.	Duluth	11 a.m., Aug.	Improving two streets	J. A. Farrell, Comr. P. Wks.
Minn.	Carlton	10 a.m., Aug.	Grading, installing culverts, and building concr. bridges	A. R. Norman, County Aud.
Minn.	Cloquet	8 p.m., Aug.	Curbs, cross walks and sidewalks for one year	J. A. Parks, City Clerk.
Pa.	Philadelphia	noon, Aug.	Grading and improving streets	G. E. Datesman, Dir. P. Wks.
N. J.	Montclair	8 p.m., Aug.	17,000 ft. 6x16-in. concrete curb	E. S. Closson, Town Engineer.
Ill.	Granite City	Aug.	11,500 sq. yds. reinforced concr. roads; cost, \$45,000	E. Hall, Engineer.
N. J.	Garwood	8 p.m., Aug.	7,500 sq. ft. concrete walks	H. B. Kjellmark, Boro Clerk.
N. J.	Trenton	Aug.	Resurf. with Warrenite and brick; cost, \$110,000	T. Tobish, Co. Engineer.
Wyoming	Rawlins	noon, Aug.	5 1/2 miles dirt road construction	L. B. Magor, Co. Clerk.
Wash.	Ritzville	Aug.	Street paving; cost, \$7,700	City Clerk.
O.	Tiffin	Aug.	Paving with brick on concrete foundation	City Engineer.
Pa.	Lock Haven	Aug.	Paving with brick on concrete foundation	C. E. Oberhelm, City Clerk.
Ky.	Barbourville	Aug.	Grading 21 miles of road	R. P. Black, Clerk.
N. J.	Bound Brook	Aug.	Paving with brick, 8,000 sq. yds.	F. A. Dunham, Engr.
Ky.	Princeton	Aug.	Improving Eddyville road	E. R. Wiley, Road Comr.
N. J.	Jersey City	Aug.	Bituminous concrete on several streets	M. I. Fagen, City Clerk.
Md.	Chevy Chase	noon, Aug.	Laying cement sidewalk and pavements	D. J. Howell & Son, Engrs., Union Tr. Bldg., Wash., D. C.
Pa.	Spangler	1 p.m., Aug.	3,000 yds. brick pavements	C. E. Schlicher, Boro Engr.
Ohio	Tiffin	noon, Aug.	5,200 sq. yds. brick pavement	Wm. Heller, Dir. Pub. Service.
Ind.	Kingman	8 p.m., Aug.	Paving several streets	G. D. Cory, Town Clerk.
Ariz.	Phoenix	5 p.m., Aug.	Improving several streets	City Engineer.
Pa.	Du Bois	Aug.	Paving with brick; cost, \$20,000	R. V. Bloom, City Clerk.
Ala.	Evergreen	Aug.	Road construction	Road Commissioners.
Ind.	South Bend	10 a.m., Aug.	Paving alleys	Board of Public Works.
O.	Dillonvale	Aug.	Paving two streets	Martin Canfield, Clerk.
O.	Wash'tn Court House	Aug.	Grading and paving four streets	B. R. Jacobs, Engineer.
N. J.	Asbury Park	Aug.	Laying sidewalks and curbs	City Clerk.
O.	Shaker Heights	Aug.	Improving several streets	B. W. Willard, Engr., Marshall Bldg., Cleveland.
Ark.	Helena	Aug.	Two miles concrete road, cost \$24,000	Winn Engineering Co.
Mont.	Billings	Aug.	Laying bituminous pavements	E. M. Sneckenberger, City Engineer.
Ala.	Guntersville	Aug.	Drain, grade and gravel four miles of road	County Commissioners.
Ind.	Gary	Aug.	First-class pavement on several streets	W. J. Fulton, City Engr.
Minn.	Popple Grove	2 p.m., Aug.	Grading, ditching and installing culverts	W. F. Bellcourt, Town Clerk, Waubun.
S. D.	Clark Lake	2 p.m., Aug.	Grading roads	J. M. Wold, County Auditor.
Mo.	Albany	Aug.	Paving 30 blocks	N. E. Holden, City Clerk.
Ala.	Ashville	Aug.	Grading and surfacing with chert gravel	W. S. Keller, State Hwy. Engineer, Montgomery.
W. Va.	Clarksburg	Aug.	Three miles highway construction	G. M. Harbert, Co. Rd. Engr.
O.	Cleveland	noon, Aug.	Grading, draining and paving streets	Park Engr., City Hall.
Ind.	Evansville	9 a.m., Aug.	Paving several streets	City Engineer.
Utah	Salt Lake City	10 a.m., Aug.	Laying cement sidewalks	S. Q. Cannon, City Engineer.
N. J.	Jersey City	Aug.	Repaving with bituminous concrete and granite block	M. I. Fagen, City Clerk.
N. Y.	Brooklyn	11 a.m., Aug.	Paving with asphalt and laying sidewalks	Bur. of Hwys, 50 Court St.
Fla.	Tampa	10 a.m., Aug.	8,000 cu. yds. oyster shell	Board County Comrs.
N. Y.	New York	3 p.m., Aug.	Cement walks in parks	Dept. Pks., Municipal Bldg.
N. Y.	New York	10:30 a.m., Aug.	Repaving with sheet asphalt and granite; setting curbs and constructing walks	Douglas Mathewson, President Bronx Boro.
Pa.	Plains	7:30 p.m., Aug.	Grading, curbing and brick paving	Jas. A. Devlin, Secy. Bd. Commissioners.
Ind.	Richmond	11 a.m., Aug.	Constructing three roads	L. S. Bowman, Co. Aud.

BIDS ASKED FOR

STATE	CITY	RECD UNTIL	NATURE OF WORK	ADDRESSES INQUIRIES TO
W. Va.	Fairmont.....	noon, Aug.	3.. 20,500 tons limestone, 102,000 sq. yds. brick and 32 miles road improvement	A. G. Martin, County Clerk
Ind.	Columbus.....	10 a.m., Aug.	3.. Constructing gravel road.....	W. H. Scott, Co. Aud.
N. Y.	New Brighton.....	noon, Aug.	3.. 2,600 sq. yds. bituminous concrete.....	Engr., Bureau of Engineering.
N. J.	New Brunswick.....	10 a.m., Aug.	4.. Repaving several streets.....	City Engineer.
N. Y.	Watertown.....	Aug.	4.. Curbing two streets.....	City Engineer.
Ind.	Indianapolis.....	10 a.m., Aug.	4.. Paving several streets.....	City Engineer.
N. Y.	Auburn.....	8 p.m., Aug.	4.. 2,500 sq. yds. brick or bituminous pavement (asphalt, Topeka or bitulthic).....	T. B. Bergan, City Engr.
Miss.	Magnolia.....	Aug.	5.. 55 miles gravel road.....	L. L. Lampton, City Comr.
Ind.	Muncie.....	10 a.m., Aug.	5.. Constructing gravel road.....	F. M. Williams, Co. Aud.
la.	Bettendorf.....	2 p.m., Aug.	5.. 2,200 sq. yds. pavements.....	H. F. Abramson, City Clerk.
Ohio	Urbana.....	noon, Aug.	5.. Paving two streets.....	Service Director.
N. J.	Bloomfield.....	8 p.m., Aug.	7.. 7,000 sq. yds. asphalt macadam, 2,500 sq. ft. concrete sidewalk, and 4,500 ft. stone curb.....	Ernest Baechlin, Town Engr.
Wis.	Stoughton.....	noon, Aug.	7.. Curbing, and paving with brick and macadam.....	L. C. Currier, First National Bank Bldg.
Ind.	Indianapolis.....	10 a.m., Aug.	7.. Paving several streets.....	City Engineer.
Ariz.	Miami.....	10 a.m., Aug.	7.. Constructing Miami-Gibson highway.....	County Clerk.
Ind.	Nashville.....	1 p.m., Aug.	7.. Constructing two gravel roads.....	Omer Morrison, Co. Aud.
Fla.	Deland.....	Aug.	7.. 375,000 sq. yds. hard surf. pav't, curbs, bridges, etc.....	J. B. McCrary Co., Atlanta, Ga.
Ind.	Jasper.....	2 p.m., Aug.	7.. Constructing 7 miles macadam road.....	J. H. Seng, Co. Aud.
Ind.	Cannelton.....	1 p.m., Aug.	7.. Constructing stone road.....	M. C. Conway, Co. Aud.
Ind.	Kentland.....	2 p.m., Aug.	7.. Constructing macadam road.....	S. R. Sizelove, Co. Aud.
Mex.	Albuquerque.....	Aug.	7.. Curbing and paving 8 blocks with bituminous materials.....	Thos. Hughes, City Clerk
Ida.	Lewiston.....	Aug.	7.. 2,760 sq. yds. concrete pavement, 13,400 sq. ft. sidewalk and 3,650 lin. ft. of curb; storm sewers.....	City Engineer
Ind.	English.....	2 p.m., Aug.	7.. Stone or similar road construction.....	J. D. Enlow, Co. Aud.
Ind.	Greensburg.....	1 p.m., Aug.	7.. Constructing road.....	J. C. Barbe, County Auditor.
Ind.	Brownstown.....	2 p.m., Aug.	7.. Constructing macadam road.....	Albert Luedtke, County Aud.
Mich.	Pontiac.....	Aug.	7.. Paving two streets.....	W. J. Fisher, Engr.
O.	Cleveland Heights.....	Aug.	7.. Paving, curbing and sidewalks.....	F. A. Pease Engrs. Co., Marshall Bldg., Cleveland, O.
Ind.	Newport.....	10 a.m., Aug.	7.. Gravel or macadam roads.....	Roy Slater, Co. Aud.
Ind.	Jeffersonville.....	10 a.m., Aug.	7.. Grading and paving with crushed stone.....	G. W. Stoner, Co. Auditor.
Ala.	Birmingham.....	Aug.	7.. Constructing 14 miles county road.....	Geo. H. Clark, County Engr.
Mo.	Baltimore.....	Aug.	7.. Paving several streets, cost \$21,000.....	R. K. Compton, Chmn. Paving
N. J.	Morristown.....	10 a.m., Aug.	7.. 19,800 sq. yds. Amiesite pavement.....	F. S. Smith, Co. Engineer.
N. Y.	Albany.....	1 p.m., Aug.	7.. Constructing state highways.....	E. Duffey, State Hwy. Comr.
Ind.	Richmond.....	11 a.m., Aug.	7.. Constructing fills and approaches for bridge.....	L. S. Bowman, Co. Aud.
la.	Perry.....	8 p.m., Aug.	7.. 11,328 ft. curb and gutter and 2,620 ft. gutter.....	C. E. Wilson, City Engr.
Miss.	Macon.....	Aug.	7.. Furn. tarvia or asph't'm spr'd'r, heater and rd. sweeper.....	J. A. Tyson, Chancery Clerk.
La.	New Orleans.....	noon, Aug.	7.. Constructing 10 miles of highway.....	W. E. Atkinson, State Highway Engineer.
Mo.	Sedalia.....	5 p.m., Aug.	7.. Curbing and brick paving on concrete base.....	F. T. Leaming, City Engineer.
Fla.	Palatka.....	noon, Aug.	7.. Shell, gravel or sand-clay surfacing; 12 to 24-in. terra-cotta or corrugated pipe.....	H. Hutchinson, Clerk, County Commissioners.
O.	Ravenna.....	Aug.	7.. 6,700 sq. yds. pavement and 4,400 ft. curb.....	W. H. Linton, Dir. Pub. Serv. Village Clerk
Wash.	Burlington.....	Aug.	7.. Sidewalks on several streets.....	Jas. Allen, State Hwy. Comr.
Wash.	Olympia.....	Aug.	7.. 5½ miles state road construction.....	A. F. Damon, Jr., City Engr.
Pa.	Darby.....	8 p.m., Aug.	7.. Paving several streets.....	J. J. Neal, Boro. Engr.
Pa.	Greensburg.....	8 p.m., Aug.	7.. Curbing, paving and improving streets.....	Henry Maetzel, Chief Engr.
O.	Columbus.....	noon, Aug.	7.. 500 tons paving pitch filler.....	W. L. Harman, Engr.
Ky.	Bedford.....	1 p.m., Aug.	8.. 9 miles macadam; cost, \$25,000.....	J. R. Haines, Co. Aud.
Ind.	Mt. Vernon.....	2 p.m., Aug.	8.. 2 miles gravel road.....	H. D. Good, Co. Aud.
Ind.	Delphi.....	10 a.m., Aug.	8.. Constructing gravel road.....	State Rds. Commission.
Mo.	Baltimore.....	noon, Aug.	8.. 21.1 miles state highways.....	L. Wolfe, Town Clerk
N. J.	West New York.....	Aug.	8.. Improving several streets.....	E. W. Edwards, Co. Aud.
Ind.	Bedford.....	1 p.m., Aug.	8.. Eight miles road construction.....	John Gray, Co. Aud.
Ind.	Petersburg.....	2 p.m., Aug.	8.. Constructing stone road.....	
Pa.	Newcastle.....	2 p.m., Aug.	8.. Concrete floor on 852-ft. bridge, about 1,800 sq. yds.; 50-ft. concrete bridge.....	T. A. Gilkey, Engineer.
la.	Clinton.....	8 p.m., Aug.	8.. 16,700 sq. yds. brick or asphaltic concrete and 10,600 ft. concrete curb and gutter.....	J. G. Thorne, City Engineer.
O.	Port Clinton.....	Aug.	8.. Eleven blocks concr. pavt.; cost, \$10,000.....	W. H. Williamson, Clerk.
Ind.	Lebanon.....	10 a.m., Aug.	8.. Constructing county road.....	Cleve Goodwin, County Aud.
Ind.	Valparaiso.....	2 p.m., Aug.	8.. 2.51 miles gravel road.....	C. A. Blachley, County Aud.
Ind.	Albion.....	2 p.m., Aug.	8.. Constructing two gravel roads.....	G. A. Young, Co. Aud.
Ind.	Madison.....	1 p.m., Aug.	8.. Construction of two roads.....	Chas. S. Dible, Co. Aud.
Ind.	Knox.....	noon, Aug.	8.. Gravel road construction.....	Chas. Weninger, Co. Aud.
Ind.	Goshen.....	1 p.m., Aug.	8.. Constructing brick road.....	A. R. Bemenderfer, Co. Aud.
O.	Greenfield.....	noon, Aug.	8.. Three-quarter-mile brick, bitulthic or tarvia road.....	E. M. Conner, Village Clerk.
N. D.	Bowbells.....	2 p.m., Aug.	8.. Grading and concrete work.....	G. K. Melby, Co. Aud.
Ind.	Rensselaer.....	2 p.m., Aug.	8.. Constructing stone roads.....	J. P. Hammond, Co. Aud.
Wash.	Republic.....	Aug.	8.. Constructing permanent highways.....	W. T. O'Connell.
Ind.	Rochester.....	2 p.m., Aug.	8.. Reconstructing township road.....	E. A. Smith, Co. Aud.
Ind.	Kokomo.....	10 a.m., Aug.	8.. One mile of gravel road.....	W. L. Benson, Co. Aud.
Ind.	Indianapolis.....	10 a.m., Aug.	9.. Paving seven blocks.....	City Engineer.
Ind.	Shelbyville.....	10 a.m., Aug.	9.. Constructing several roads (10 miles).....	F. W. Fagel, County Auditor
W. Va.	N. Martinsville.....	noon, Aug.	9.. 41,000 sq. yds. of brick; 15,000 tons limestone.....	S. Myers, County Clerk
Ind.	Warsaw.....	10 a.m., Aug.	9.. Constructing gravel road.....	V. D. Mock, Co. Aud.
Ind.	Peru.....	noon, Aug.	9.. Constructing gravel and concrete road.....	F. K. McElheny, Co. Aud.
Ind.	Columbia City.....	10 a.m., Aug.	9.. Constructing several roads.....	T. A. McLaughlin, Co. Aud.
Ind.	Hartford City.....	10 a.m., Aug.	9.. Constructing county road.....	J. L. McGeath, Co. Aud.
W. Va.	Hamlin.....	Aug.	9.. Constructing four miles of road.....	A. F. Black, Co. Clerk.
N. J.	Freehold.....	11 a.m., Aug.	9.. One mile gravel road.....	C. E. Close, Clerk Bd. Freeholders.
Pa.	Ashley.....	noon, Aug.	10.. Repaving streets.....	Fred Butts, Miners Bank Bldg., Wilks'barre, Pa., Engr.
Wash.	Waterville.....	Aug.	10.. Macadamizing 4½ miles of road.....	County Commissioners
Ark.	Helena.....	Aug.	10.. Two miles concrete road; cost, \$24,000.....	W. E. Winn, Engineer.
Ark.	Pine Bluff.....	Aug.	10.. Forty miles gravel or bituminous macadam road, bridges, etc.; cost, \$250,000.....	E. C. Tovey, Engineer.
Col.	Glenw'd Springs.....	noon, Aug.	10.. One-half-mile road construction.....	C. L. Hubbard, Co. Clerk.
Ark.	Batesville.....	Aug.	10.. Brick paving and 300 ft. coping.....	Custodian, U. S. Post Office.
Mo.	Fulton.....	Aug.	10.. 2,200 sq. yds. brick pav't, 1,200 ft. concrete curb and 1,600 sq. yds. grading, oiling and rolling.....	F. E. Baker, City Engineer.
Ind.	La Porte.....	10 a.m., Aug.	10.. Constructing three roads.....	F. A. Hausheer, Co. Aud.
W. Va.	Elkins.....	Aug.	10.. 19 miles road improvement.....	P. B. Bloomfield, Chief Engr.
Ill.	Springfield.....	Aug.	11.. Curbing and paving with brick; cost, \$75,000.....	W. D. Seeley, City Engineer.
Minn.	Park Rapids.....	10 a.m., Aug.	11.. Building one-half mile road.....	Chas. Potter, Clerk.
Wis.	West Allis.....	noon, Aug.	11.. 10,000 sq. yds. reinforced concrete pavement.....	E. G. Orbert, City Engr.
N. Y.	Albany.....	1 p.m., Aug.	14.. Constructing state highways.....	Edwin Duffey, State Highway Commissioner.
Ala.	Birmingham.....	noon, Aug.	14.. Constructing 14 miles of highway.....	Geo. H. Clark, Co. Engr.
Ala.	Camden.....	Aug.	14.. Sand-clay or clay-gravel road.....	Blair Hughes, Co. Rd. Supvr.

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
Ind.	Indianapolis	10 a.m., Aug. 14	Paving several streets	City Engineer.
Ala.	Bay Minette	Aug. 15	Constructing section of Delta highway	J. M. Garrett, Co. Engineer.
Ohio	Lebanon	Aug. 15	Five miles macadam road	Roy Miller, Engr., Courthouse.
N. Y.	Albany	1 p.m., Aug. 16	Constructing state highways	Edwin Duffey, State Highway Commissioner.
Ala.	Bay Minette	Aug. 16	Constructing portion of Delta highway	J. M. Garrett, Co. Engineer.
Ind.	Indianapolis	10 a.m., Aug. 16	Grading and paving streets	Board of Public Works.
Ind.	Indianapolis	10 a.m., Aug. 18	Grading and paving Pleasant street	Board of Public Works.
N. Y.	Albany	1 p.m., Aug. 18	Constructing state highways	Edwin Duffey, State Highway Commissioner.
Utah	Salt Lake City	Aug. 20	Concrete roads; cost, \$38,000	S. Q. Cannon, City Engineer.
Tex.	Clarksville	Aug. 25	Paving with concrete and constructing curb and gutter, cost \$90,000	J. R. Johnson, Engineer

SEWERAGE.

Wis.	Wauwatosa	1:30 p.m., July 28	2,580 ft. 15-in. sewer	A. V. Brigham, City Clerk.
Pa.	Williamsport	10 a.m., July 29	1,500 ft. 8 to 12-in. sewers	G. K. Harris, Supt. of Streets and Pub. Improvements
Conn.	Waterbury	noon, July 29	Laying sewer in Judd St.	The A. J. Patton Co., Engrs., 27 W. Main St.
Kan.	Chanute	noon, July 29	Constr. lateral sewers, 4,300 ft.	City Engineer.
Ind.	Fort Wayne	4 p.m., July 31	Comfort station and sewer	Board of Park Commissioners.
N. Y.	New York	2 p.m., July 31	6 to 48-in. sewer in Park Ave.	Comr. of Public Works, Bur. of Sewers, Manhattan.
Wis.	Milwaukee	10:30 a.m., July 31	Laying house drain	Percy Braman, Deputy Commissioner Public Works.
Mich.	Bay City	9 a.m., July 31	Constructing 10-in. tile sewer	F. P. S. Kelton, Chmn. Bd. P.W.
Minn.	St. Paul	10:30 a.m., July 31	Sewers on several streets	H. W. Austin, Purch. Agent.
la.	Mason City	July 31	Tile drain, work requir. large amount of 8 to 30-in. tile	G. E. Frost, Co. Aud.
Kan.	Nickerson	July 31	600 ft. vitrified sewers	E. F. Turbush, City Clerk.
Mo.	Chillicothe	noon, July 31	Constructing sewers	J. W. Williams, City Auditor
N. J.	Ridgefield Park	Aug. 1	Sewers and sewage treatment plant	Village Commissioners
Ind.	South Bend	10 a.m., Aug. 1	Pipe sewers in three streets	Board of Public Works.
Ont.	Toronto	noon, Aug. 1	Constructing storm overflow sewer	Works Dept., City Hall.
Conn.	East Hartford	8 p.m., Aug. 1	Constructing sewers in four streets	Sewer Commissioners.
Mont.	Billings	Aug. 1	Constructing lateral storm sewers	E. M. Sneckenberger, City Engineer.
Cal.	Hanford	Aug. 1	Storm drain, cost \$35,000	E. M. Lynch, City Engr.
Ont.	Harrow	noon, Aug. 1	Constructing Shapley drain	J. H. Madill, Twp. Clerk.
Ind.	Evansville	9 a.m., Aug. 1	1,000 ft. 10 to 15-in. sewers	Board of Public Works.
Cal.	Chino	Aug. 1	Sewer system; cost, \$58,000	City Clerk.
O.	London	Aug. 1	Constructing sewers	Clark & McCafferty, Engrs.
Ill.	Rock Island	Aug. 1	Constructing storm sewers, cost \$40,000	City Engineer
Conn.	East Hartford	Aug. 1	Sewers in several streets	City Commissioners
Pa.	Oakmont	8 p.m., Aug. 1	6,000 ft. 15 to 42-in. tile and brick sewer	Douglas & McKnight, Engrs., Union Bank Bldg., Pittsburgh, Pa.
Kans.	Lawrence	9 a.m., Aug. 1	Constructing sanitary sewers	City Engr.
Pa.	Beaver	10 a.m., Aug. 1	Sewage disposal plant at County Home	County Commissioners.
Minn.	Morris	2 p.m., Aug. 1	Tile drainage ditches; cost, \$65,000	C. R. Wolltham, County Aud.
Neb.	Grand Island	8 p.m., Aug. 2	Constructing sewer; cost, \$1,100	H. E. Clifford, City Clerk.
N. Y.	Binghamton	Aug. 2	Constructing several sewers	W. Earl Weller, City Engr.
N. J.	Hoboken	10 a.m., Aug. 2	Constructing sewers in several streets	D. A. Haggerty, City Clerk
Fla.	Miami	Aug. 3	8 to 18-in. sewers, \$25,000 available	B. H. Klyce, Engr.
O.	Cleveland	noon, Aug. 3	Sewers in five streets	Comr. of Engineering.
Wyo.	Riverton	8 p.m., Aug. 3	Sewer system, requiring 23,000 ft. 8 to 15-in. sewer pipe	C. C. Carlisle, Engr., 1st Natl. Bk. Bldg., Cheyenne, Wyo.
N. Y.	New York	10:30 a.m., Aug. 3	Constructing sewers in several streets	Douglas Mathewson, President Bronx Boro.
N. Y.	New York	2 p.m., Aug. 3	Constructing receiving basin	Com. Pub. Wks. Bur. Sewers.
Minn.	Fergus Falls	10:30 a.m., Aug. 4	Tile and open ditches; cost, \$10,000	Wm. Lincoln, County Aud.
Ohio	Springfield	Aug. 4	Constructing several sewers	C. E. Ashburner, City Mgr.
O.	Cheshire	noon, Aug. 5	Sewer system and disposal plant; cost, \$2,000	W. D. Ross, Pres. Bd. of Ed.
O.	Delaware	noon, Aug. 5	Sewage disposal plant at Central school	Richards Engineering Co., 37 1/2 E. Long St., Columbus, O.
Minn.	Owatonna	2 p.m., Aug. 5	17,500 ft. 12 to 24-in. tile drain	M. J. Parcher, Co. Aud.
N. J.	Bloomfield	8 p.m., Aug. 7	1,500 ft. 12 to 24-in. tile (street work)	Ernest Baechlin, Town Engr.
Cal.	San Jose	11 a.m., Aug. 7	Constructing sewers	H. A. Pfister, Clerk Bd. Supv.
Cal.	San Jose	11 a.m., Aug. 7	Sewer at county infirmary	H. A. Pfister, Clk. Co. Supvrs.
Pa.	Athens	7:30 p.m., Aug. 7	Sewage disposal plant for 4,000 people	C. W. Tidd, Boro Sec'y.
Fla.	Deland	Aug. 7	Drains and storm sewers in connection with road work	J. B. McCrary Co, Atlanta, Ga.
Ind.	Indianapolis	10 a.m., Aug. 7	Constructing several sewers	City Engineer.
O.	Cleveland Heights	noon, Aug. 7	Constructing storm and sanitary sewers	F. A. Pease Engineering Co., Marshall Bldg., Cleveland, O.
D. C.	Washington	Aug. 7	Furnishing sewer pipe	Gen. Pur. Agt., Panama Canal
Ohio	Columbus	noon, Aug. 7	Furnishing manhole, and catch basin castings	Henry Maetzel, Chief Engr.
N. D.	Grand Forks	4 p.m., Aug. 7	Constructing several sewers	W. H. Alexander, City Aud.
S. D.	Mitchell	8 p.m., Aug. 7	3,000 ft. tile sewers	Thos. Eastcott, City Aud.
Ind.	South Bend	10 a.m., Aug. 8	Pipe sewers in several streets	Bd. Public Works.
Ky.	Lexington	2:30 p.m., Aug. 8	Constructing sewage disposal works; cost, \$200,000	Solomon-Norcross Co., Engineers, Atlanta, Ga.
Wis.	Thief Riv. Falls	8 p.m., Aug. 8	5,000 ft. 8 to 12-in. sewer, sewage well end pumps	A. H. Fasel, City Clerk.
Ohio	Coshocton	Aug. 10	Sewage disposal plant; cost, \$30,000	C. Fisher, City Engr.
N. J.	Hoboken	Aug. 12	Sewer construction, cost \$9,000	City Commissioners
Neb.	Plattsmouth	5 p.m., Aug. 14	475 ft. 54-in. storm sewer	J. F. Wurga, City Clerk.
Minn.	St. James	Aug. 15	Tile drainage ditches; cost, \$80,000	E. E. Nichols, City Engineer.
Ga.	Savannah	noon, Aug. 15	One mile 66x84-in. to 120x78-in. concr. box sewers	E. R. Conant, Chief, Engineer Service.
O.	Ravenna	Aug. 15	Constructing sanitary sewers, cost \$9,000	W. H. Linton, Engr.
Ohio	Akron	Aug. 25	Constructing vitrified tile sewers	E. A. Zeisloff, Engr.
O.	Conneaut	Sept. 1	Sewers in several streets	S. W. Mahaffey, Dir. P. Serv.

WATER SUPPLY.

Ore.	Oregon City	July 29	Constructing concrete reservoir, 5,000,000 gals. capacity	Water Commission
Md.	Takoma Park	8 p.m., July 31	Steel water tank tower and oil engine	Harry Stevens, Engr., Union Trust Bldg., Wash., D. C.
Ill.	Lamotte	July 31	50,000-gal. water tower, deep well pump, oil engine, pumping station and water works system	J. F. Allen, Pres. Bd. of Trus.
Wis.	Milwaukee	10:30 a.m., July 31	Laying water service pipe	Percy Braman, Deputy Commissioner Public Works.
D. C.	Washington	July 31	Furnishing steel pipe, fittings, valves, etc.	Gen. Pur. Agt., Panama Canal
Ind.	Fort Wayne	10 a.m., July 31	Drilling and casing 6-in. well	Will Johnson, Co. Aud.

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
Ind., Knightstown	8 p.m., July 31	1.. Brick chimney for water and light plant	L. E. Spencer, Town Clerk.	
Kan., Topeka	July 31	31.. Constructing 250,000-gal. reservoir	Frank Newland, W. & Lt. Commissioners.	
Wash., Factoria	Aug. 1	1.. Gasoline engine and pumping head for deep well	E. W. Lord, Clerk, School Directors.	
Ill., Glenview	8 p.m., Aug. 1	1.. Laying water mains, constructing tank and tower, deep well, pumping machinery and stations	Marr, Green & Co., Engrs., 17 No. La Salle St., Chicago, Ill.	
O., South Charleston	noon, Aug. 1	1.. Constructing water works system	S. B. Rankin, Clerk	
Ind., South Bend	10 a.m., Aug. 1	1.. Making water connections	Board of Public Works.	
Ill., Dixon	10 a.m., Aug. 1	1.. Two pump houses, steel tank and tower	F. D. Whipp, State Fiscal Supervisor, Springfield, Ill.	
Minn., Westbrook	8 p.m., Aug. 1	1.. 760 ft. 4-in. main, and two hydrants	Joseph Budish, City Clerk.	
N. D., Kildeer	2 p.m., Aug. 1	1.. Water works system, including wells, steel tower and tank, pumps and hydrants	R. C. Pinkham, Village Clerk.	
Mont., Sheridan	Aug. 2	2.. Concrete catch basin and reservoir, 16,000 ft. 4 to 6-in. c. i. pipe and 6,000 ft. 8-in. wood pipe	G. E. Baker, Engr., Whitehall, Mont.	
Neb., Dixon	Aug. 2	2.. Constructing water works, cost \$6,500	R. Flaherty, City Clerk	
Wyo., Riverton	8 p.m., Aug. 3	3.. Well, pump and pump house and 10,000 ft. 4 and 6-in. c. i. pipe	F. H. Allyn, Town Clerk.	
Minn., Lake City	8 p.m., Aug. 4	4.. 4,075 ft. 6-in. mains, ten hydrants and six valves	E. R. Paterick, City Clerk.	
Minn., Thief Riv. Falls	8 p.m., Aug. 5	5.. Pumping system and connections at High School	Chas. Pitkin, Clerk Bd. Educ.	
Alberta, Lethbridge	Aug. 5	5.. 3,000,000-gal. filtration plant	A. M. Grace, Commr. Pub. Wks.	
Ill., North Chicago	Aug. 5	5.. 1,000,000-gal. filter plant at training station	F. R. Harris, Bur. Yards & Docks, Navy Dept., Wash., D. C.	
N. D., Grand Forks	4 p.m., Aug. 7	7.. Laying water mains	W. H. Alexander, City Aud.	
Mont., Highwood	Aug. 7	7.. Constructing waterworks system; cost, \$10,000	City Clerk.	
Mont., Fort Benton	Aug. 7	7.. Water works system, cost \$10,000	J. F. Culbertson, Co. Engr.	
D. C., Washington	Aug. 7	7.. Furnishing c. i. pipe and valves	Gen. Pur. Agt., Panama Canal	
O., Cleveland Heights	noon, Aug. 7	7.. 6 and 8-in. c. i. water main construction	F. A. Pease Engineering Co., Marshall Bldg., Cleveland, O.	
Sask., Assiniboia	6 p.m., Aug. 8	8.. Furn. and lay. 17,500 ft. 4 to 8-in. c. i. or steel pipe, erect. power station, constr. concr. reservoir, elec. pole line, storage tank, elec. appar., pump and oil engine	Murphy & Underwood, Engrs., Saskatoon, Sask.	
N. Y., Oxford	Aug. 8	8.. Water supply for Women's Home	Georgianna Griffith, Pres. Bd. Managers	
Ont., Matheson	noon, Aug. 8	8.. 12,000 ft. 4 to 10-in. wire-wound wood stave pipe, concrete reservoir, pump house and well	McAuslan & Anderson, Engrs., North Bay, Ont.	
Mont., Sheridan	8 p.m., Aug. 9	9.. Constructing complete water works system	G. E. Baker, Engr., Whitehall, Mont.	
N. Y., Red Creek	2 p.m., Aug. 10	10.. Four miles 6 and 8-in. c. i. pipe, pumping station and pumps and elevated water tank	F. M. Jones, Village Clerk	
O., Coshocton	noon, Aug. 10	10.. Constructing pump pit and lowering suction line	Sam Ashman, Serv. Saf. Dir.	
Tex., Kenedy	Aug. 15	15.. Waterworks system, oil engine, triplex pump and steel tank and tower	R. E. Goode, Village Clerk.	
Tenn., Johnson City	7:30 p.m., Aug. 15	15.. Two hundred twenty-five $\frac{3}{4}$ to 2-in. meters	P. F. McDonald, Commissioner & Engineer.	
Va., Richmond	Aug. 15	15.. C. i. pipe, 30-in. valves, lead and jute	E. E. Davis, Supt. of W. W.	
Wis., Winnebago	Aug. 16	16.. Sprinkler system in Insane Hospital	State Bd. Control, Madison	
MISCELLANEOUS.				
Minn., Buffalo	1 p.m., July 29	29.. Drainage ditches, cost \$4,227	John A. Berg, County Auditor.	
La., Burtville	July 30	30.. Drainage ditch work; cost, \$10,000	L. V. Huey, Engineer, Baton Rouge, La.	
Ind., Brazil	noon, July 31	31.. Ditch work; flood gates; rip-rapping	Reservoir Improvement Co.	
Ind., Shelbyville	1 p.m., July 31	31.. Constructing drainage ditches	W. H. Yarling, Trustee, Marion Twp.	
Ind., Knightstown	8 p.m., July 31	31.. Constructing radial brick chimney	L. E. Spencer, Town Clerk.	
Ind., Hartford City	2 p.m., July 31	31.. Cleaning and repairing three ditches	Robt. Guseman, Van Cleave Block.	
Vt., Burlington	July 31	31.. Collecting garbage for three years	F. J. Ennis, Secy. Bd of Hlth.	
Minn., Owatonna	2 p.m., July 31	31.. Digging ditch and installing culverts	G. A. Ralph, Engineer, 16 Fulton Block, St. Paul, Minn.	
Ind., Shelbyville	1 p.m., July 31	31.. Cleaning and repairing ditches	R. T. Gallagher, Twp. Trust.	
N. Y., New York	noon, July 31	31.. 3,000 metal signs	Exam. Board of Plumbers.	
N. Y., New York	noon, July 31	31.. Dredging and removing rock	R. A. C. Smith, Cmr. of Docks.	
D. C., Washington	July 31	31.. Steel and cast iron parts for spillway for dam	U. S. Reclamation Service.	
N. Mexico, Carlsbad	Aug. 1	1.. 151,000 cu. yds. excavation	U. S. Reclamation Service.	
Ohio, Tiffin	noon, Aug. 1	1.. Concrete wall, 190 ft. long	Wm. Heller, Dir. Pub. Service.	
Siam, Bangkok	Aug. 1	1.. Furnishing suction or hydraulic dredge	Director General, Royal Irrigation Dept.	
Ia., Des Moines	9 a.m., Aug. 2	2.. Erecting 100-ton inclinator or reducer for garbage and refuse	Horace Susong, City Clerk.	
Quebec, Outremont	8 p.m., Aug. 2	2.. Constructing inclinator	City Engineer.	
Minn., Morris	2 p.m., Aug. 2	2.. Ditch construction; cost, \$65,675	C. R. Wolltham, Co. Aud.	
N. J., Bayonne	Aug. 2	3.. One-ton automobile commercial car	Board of Education.	
Mich., Ann Arbor	5 p.m., Aug. 4	4.. Small concr. bridge, requiring about 200 cu. yds. concr.	R. E. Bassett, Supt. of Parks.	
D. C., Washington	Aug. 4	4.. Reinforcing material for Atlanta jail	Supt. of Prisons, Dept. Justice.	
Ind., Hartford City	2 p.m., Aug. 5	5.. Cleaning and repairing drainage ditches	Orville Schmidt, Trus., Washington Twp.	
Ohio, Columbus	noon, Aug. 7	7.. 7,000 gals. gasoline	G. A. Borden, Pres. Bd. Purch.	
Ind., Huntington	1 p.m., Aug. 7	7.. Cleaning and repairing drainage ditches	W. W. Campbell, Trustee, Polk Township.	
Miss., Gulfport	Aug. 7	7.. Constructing concrete sea wall	Board of Supervisors.	
O., Lancaster	Aug. 10	10.. Dredging ditches; cost, \$105,600	C. O. Brown, Co. Engineer.	
N. C., Fargo	10 a.m., Aug. 16	16.. Mechanical stokers and smoke-eliminating and fuel-saving devices at pumping station	A. R. Watkins, City Auditor.	
La., New Orleans	noon, Sept. 13	13.. Two 15-ton traveling cranes	Sewerage & Water Board.	

MISCELLANEOUS.

Minn., Buffalo	1 p.m., July 29	29.. Drainage ditches, cost \$4,227	John A. Berg, County Auditor.
La., Burtville	July 30	30.. Drainage ditch work; cost, \$10,000.	L. V. Huey, Engineer, Baton Rouge, La.
Ind., Brazil	noon, July 31	31.. Ditch work; flood gates; rip-rapping.	Reservoir Improvement Co.
Ind., Shelbyville	1 p.m., July 31	31.. Constructing drainage ditches	W. H. Yarling, Trustee, Marion Twp.
Ind., Knightstown	8 p.m., July 31	31.. Constructing radial brick chimney.	L. E. Spencer, Town Clerk.
Ind., Hartford City	2 p.m., July 31	31.. Cleaning and repairing three ditches.	Robt. Guseman, Van Cleave Block.
Vt., Burlington	July 31	31.. Collecting garbage for three years.	F. J. Ennis, Secy. Bd of Hlth.
Minn., Owatonna	2 p.m., July 31	31.. Digging ditch and installing culverts.	G. A. Ralph, Engineer, 16 Fulton Block, St. Paul, Minn.
Ind., Shelbyville	1 p.m., July 31	31.. Cleaning and repairing ditches.	R. T. Gallagher, Twp. Trust.
N. Y., New York	noon, July 31	31.. 3,000 metal signs	Exam. Board of Plumbers.
N. Y., New York	noon, July 31	31.. Dredging and removing rock.	R. A. C. Smith, Cmr. of Docks.
D. C., Washington	July 31	31.. Steel and cast iron parts for spillway for dam.	U. S. Reclamation Service.
N. Mexico, Carlsbad	Aug. 1	1.. 151,000 cu. yds. excavation.	U. S. Reclamation Service.
Ohio, Tiffin	noon, Aug. 1	1.. Concrete wall, 190 ft. long.	Wm. Heller, Dir. Pub. Service.
Siam, Bangkok	Aug. 1	1.. Furnishing suction or hydraulic dredge.	Director General, Royal Irrigation Dept.
Ia., Des Moines	9 a.m., Aug. 2	2.. Erecting 100-ton inclinator or reducer for garbage and refuse	Horace Susong, City Clerk.
Quebec, Outremont	8 p.m., Aug. 2	2.. Constructing incinerator	City Engineer.
Minn., Morris	2 p.m., Aug. 2	2.. Ditch construction; cost, \$65,675.	C. R. Wollhan, Co. Aud.
N. J., Bayonne	Aug. 3	3.. One-ton automobile commercial car.	Board of Education.
Mich., Ann Arbor	5 p.m., Aug. 4	4.. Small concr. bridge, requiring about 200 cu. yds. concr.	R. E. Bassett, Supt. of Parks.
D. C., Washington	Aug. 4	4.. Reinforcing material for Atlanta jail.	Supt. of Prisons, Dept. Justice.
Ind., Hartford City	2 p.m., Aug. 5	5.. Cleaning and repairing drainage ditches.	Orville Schmidt, Trus., Washington Twp.
Ohio, Columbus	noon, Aug. 7	7.. 7,000 gals. gasoline	G. A. Borden, Pres. Bd. Purch.
Ind., Huntington	1 p.m., Aug. 7	7.. Cleaning and repairing drainage ditches.	W. W. Campbell, Trustee, Polk Township.
Miss., Gulfport	Aug. 7	7.. Constructing concrete sea wall.	Board of Supervisors.
O., Lancaster	Aug. 10	10.. Dredging ditches; cost, \$105,600.	C. O. Brown, Co. Engineer.
N. C., Fargo	10 a.m., Aug. 16	16.. Mechanical stokers and smoke-eliminating and fuel-saving devices at pumping station.	A. R. Watkins, City Auditor.
La., New Orleans	noon, Sept. 13	13.. Two 15-ton traveling cranes.	Sewerage & Water Board.

STREETS AND ROADS

Los Angeles, Cal.—Ordinances have been passed providing for the improvement of several streets.

Santa Ana, Cal.—There is some discussion as to where the new Santa Ana canyon road will be constructed, but it will probably be constructed where it was before the washout, as it is considered the safest place.

Bridgeport, Conn.—Harrison St. on the hill is to be paved with warrenite.

Westport, Conn.—State St. is to be widened at bridge approaches.

Dover, Del.—\$25,000 good roads bonds have been sold to several purchasers.

Jacksonville, Fla.—An election will be called for Nov. 7 to vote on issuance of road bonds amounting to \$3,000.

Lakeland, Fla.—Bond issue of \$1,500,-

000 for 217 miles of sheet asphalt roads in Polk County will be sold Aug. 7.

Rome, Ga.—County will repair wooden block pavements.

Boise, Ida.—County Commissioners are considering means of raising money with which to build an automobile road from Boise to Arrowrock.

Mt. Sterling, Ill.—Road from Mt. Sterling to Timewell, known as route No. 7.

is first road in Brown County to be improved with state aid.

Mt. Sterling, Ill.—The main road leading from Mt. Sterling to Timewell is to be improved. County has appropriated \$2,799 as its share of the expense.

Springfield, Ill.—An ordinance has been passed providing for the laying of a brick pavement, 30 ft. in width, with a sandstone curbing, in West Grand Ave., from South Grand Ave. to Laurel St., at an estimated cost of \$12,078.34.

Crawfordsville, Ind.—The R. L. Dollings Co., Indianapolis, have purchased road bonds amounting to \$20,000.

Indianapolis, Ind.—Merchants National Bank of Muncie have purchased Monroe County highway bonds amounting to \$12,600. German American National Bank, Fort Wayne, Ind., have purchased Steuben County road bonds amounting to \$9,840.

Logansport, Ind.—Broadway, from 3d St. west to Eel River Ave.; 1st and 2d Sts., north from Market to Eel River Ave. are to be paved.

Muncie, Ind.—Delaware County National Bank have purchased road improvement bonds amounting to \$109,200.

Richmond, Ind.—Tax payers are anxious to have a concrete road through Economy.

Salem, Ind.—Bank of Salem has purchased gravel road bonds amounting to \$40,200.

Winchester, Ind.—Gavin L. Payne & Co., Indianapolis, have purchased road bonds amounting to \$12,400. Joseph C. Gard, local, \$2,300; Commercial National Bank, Union City, \$18,400.

Waterloo, Ia.—Creosote block will be laid on Fifth St. from Lafayette to the bridge and Sycamore St. from 4th to 5th. Sycamore from 4th to Park; Park from Water to Sycamore; Sycamore from 5th to the Great Western tracks; 5th from Commercial to Bluff; Jefferson from 5th to Park; Mullan Ave. from Commercial to Jefferson; Lafayette from Oak to the Illinois Central tracks; Lane from Fowler to Independence Ave. will be paved with asphalt.

Atchinson, Kan.—A petition has been received asking the construction of a regulation sidewalk on both sides of Park St. from Fourth St., east to Gillespie St., and the city engineer has been instructed to establish a grade for a sidewalk on that street.

Chanute Kan.—Manford Barbee, commissioner of streets, has been requested to ascertain the cost of a road roller and how soon one could be obtained.

Pittsburg, Kan.—An ordinance has been passed providing for the curbing, guttering, grading and paving of Pine St. from south line of Kansas Ave. to north line of Forest Ave.

Jeffersonville, Ky.—R. L. Dollings Co., Indianapolis, Ind., have purchased \$9,100 worth of Valentine-Nochand Rd. bonds. Other bids received from: Fletcher American National Bank; Breed, Elliott & Harrison; J. F. Wild & Co.; E. M. Campbell & Sons Co.—all of Indianapolis, Ind.

Paducah, Ky.—A special election will be held November 7th to vote on bond issue, amounting to \$200,000, for roads.

Beverly, Mass.—Tremont Trust Co., Boston, have purchased \$90,000 worth of Salem Thoroughfare loan bonds. Other bidders: Central National Bank, Lynn; Manufacturers' National Bank, Lynn; and Gloucester Safe Deposit & Trust Co.

Boston, Mass.—See "Water Supply."

Haverhill, Mass.—City has appropriated \$12,000 for the paving of White St.

Springfield, Mass.—City commission have the widening of Main and Locust Sts. under consideration.

Lapeer, Mich.—The Lapeer County Road Commissioners propose to build a trunk line from Genesee County through Elba township, to Lapeer and from Lapeer south through Lapeer and Metamora townships, to Oakland County line. A trunk line will mean a 16-ft. driveway, with a 4 per cent. grade.

Mt. Clemens, Mich.—Bonds amounting to \$34,000 are to be issued for repaving.

Pontiac, Mich.—Commissioner of public utilities has been instructed to construct new sidewalks on several streets.

Pontiac, Mich.—A pavement is to be constructed in Wesson St. from Walnut St. to Branch, and in Branch St. from Wesson St. southerly to 100 ft. south of north rail of the M. A. L. R. R.

Sault Ste Marie, Mich.—City Engineer Frederick will prepare plans and specifications for paving of Portage Ave. and Dawson St.

In This Issue: Contract News

Roads and Streets.

95 new bids asked
140 proposed work items

Sewerage:

50 new bids asked
40 proposed work items

Water Supply:

23 new bids asked
50 proposed work items

435 advance news items, including "Miscellaneous"—all new and reliable, for the municipal works contractor. More municipal contract news than any other paper.

Municipal Journal Leads in Service to Contractors

St. Paul, Minn.—Several streets are to be improved with new crosswalks, some cement block and some brick.

St. Paul, Minn.—City Council has ordered the following improvements: Grading of Stanford Ave., between Griggs St. and Syndicate Ave.; estimated cost, \$1,400, or \$1.15 a front foot. Grading of Juliet St., between Syndicate Ave. and Edgumbe Rd.; estimated cost, \$2,491, or \$1.40 a ft. Change of grade and paving of the alley between Goodrich and Fairmount Aves., from Avon to Victoria St.; estimated cost, \$2,419, or \$2.01 a foot.

Meridian, Miss.—Kemper County is to issue bonds amounting to \$85,000 for construction of roads.

Chillicothe, Mo.—A new highway is to pass through Gilman City, Jamesport and Springfield into Chillicothe, and will be about 50 miles in length and will be called Ben Hur Hwy. The new route will be marked with the letters B. H. in yellow and black. A quarter of a mile of road running east and west directly south of Bliss Hill is to be paved.

Chillicothe, Mo.—The city engineer has been instructed by the city council to prepare plans and specifications and a resolution for the continuation of the paving on West Calhoun St.

Hannibal, Mo.—New London dirt road is to be improved and citizens are strongly in favor of making it a permanent road.

Joplin, Mo.—The City Engineer has been ordered to prepare an estimate on the cost of paving Joplin St. from 10th to 20th St. with bitulithic pavement.

Kansas City, Mo.—The county court have requested the county highway engineer to prepare plans and specifications and estimate of cost for the rock-ing of a road running from a point near the center of section 6 to a point at the center of section 19, both in Township 47, Range 33. The purpose of this road, if built, is to connect with the south end of the Dallas Rock Road with a road leading to Martin City.

Kansas City, Mo.—Thirteenth St. is to be widened to 75 ft. from Broadway to Hardesty Ave.

Salem, Mo.—Bonds amounting to \$160,000 for good roads are to be issued.

Webb City, Mo.—Resolutions have been passed declaring it necessary to grade and gravel the following streets: Liberty St. from Third to Fourth Sts., and Allen St. from Third to Tracy Sts., and to curb and gutter both sides of Allen St. from Third to Tracy Sts., Ayler St. from Madison to Ash Sts., Joplin St. from Madison to Ash Sts., Hall St. from Main St. to Garrison Ave., First St. from Madison to Cedar Sts., and the west side of Liberty from Third to Fourth Sts. L. O. Walker, City Clerk.

Fremont, Neb.—The council have voted to pave 6th St. from H to M, 38 ft. wide, in response to a petition from property owners.

Plattsmouth, Neb.—The city council has authorized the mayor and city clerk to advertise for bids for paving on Chicago Ave.; the architects estimated cost is \$30,004.78.

Newark, N. J.—Vaux Hall Rd., between Springfield Ave. and Valley St.,

Union Twp., is to be widened and straightened.

Passaic, N. J.—An ordinance has been passed providing for the grading, curbing and guttering of Dewey St., east of Chestnut St.

Auburn, N. Y.—All paving bids have been rejected on John, Grover, and Fort Sts., and resurfacing bids on North and State Sts.

Cooperstown, N. Y.—Nelson Ave. is to be curbed.

Fairport, N. Y.—A special election will be held July 27 for voting on pavement of several streets.

Greensboro, N. Y.—City Commissioners have been asked for a sidewalk on Highland Ave.

Hudson, N. Y.—City Council has voted \$3,000 for repair of the streets.

Rochester, N. Y.—The total cost of four highways, Chili-Coldwater, Sweden-Walker, Rush-Mendon and Scottsville-Rush, will be \$243,600.

Syracuse, N. Y.—Blake Bros. & Co., and Stacy & Braun have purchased bonds amounting to \$450,800 for local improvements.

Utica, N. Y.—N. Genesee St. road is to be built by the State Highway Commission.

Yonkers, N. Y.—Commissioner Brady has suggested the purchase of another steam roller and asks authority to purchase one from the Buffalo Steam Roller Co., at \$3,000.

Greensboro, N. C.—County Commissioners plan to construct several more miles of asphaltic roadway.

Jonesville, N. C.—Bonds amounting to \$5,000 will be issued for the purpose of improving streets and sidewalks.

Cincinnati, Ohio.—Montgomery Pike is to be repaired and oiled from Corporation line to Silverton.

Cleveland, Ohio.—East Fourth St. from Euclid Ave. to Prospect Ave. S. E. is to be improved by grading, draining, setting curbs and repairing with dressed block stone on concrete or sheet asphalt; also East Fourth St. from Prospect Ave. S. E. to Huron Rd. S. E.; Gilbert Court S. W., from West 58th St. to West 61st St., to grade, drain, curb and pave with brick on concrete; East 55th St. from St. Clair Ave. N. E. to Pennsylvania R. R. grade crossing, to grade, drain, curb and repave with dressed block stone on a concrete foundation.

East Liverpool, O.—City Council has authorized a bond issue of \$55,000 to take care of needed city paving.

Hamilton, O.—Gus H. Hanna recommends the purchase of a double power flushing machine to clean the streets. The purchase of an asphalt mixing repair plant has also been recommended.

Oxford, O.—Sealed proposals will be received at the office of the village clerk until 12 o'clock, Aug. 21, for the purchase of village bonds amounting to \$15,000.

Salem, O.—Ordinances have been passed providing for construction of sidewalks on both sides of Washington St., between Maple and Mound Sts.

Salem, O.—Sealed proposals will be received for the purchase of street improvement bonds amounting to \$30,405.61 until 12 o'clock noon, July 29. George Holmes, city auditor.

Salem, O.—The Canton road out of Lisbon is to be paved partly with brick and the remainder with tarvia.

Sandusky, O.—Tyler St. from Haves Ave. to Campbell St. is to be improved by paving with brick or sheet asphalt, or by constructing a concrete pavement.

Springfield, O.—North Fountain Ave., from Main St. to College Ave., is to be paved. Bids are to be received at noon, July 31. Chief Engineer M. J. Bahin estimates the work at \$42,981.

Tiffin, O.—The Mohawk road is to be improved a distance of approximately one mile, with two course waterbound macadam, not less than 14 ft. wide.

Tiffin, O.—North Sandusky St. is to be paved with macadam.

Toledo, O.—County Surveyor Rood has recommended that four main roads be improved by paving with brick at an estimated cost of \$315,000, as follows: Dorr St., from the city limits to Reynolds corner, 3½ miles, \$48,000. Holland stone road, city limits to Holland village, 5 8-10 miles, \$95,000. River Rd., from city limits to Maumee village, \$92,000. Jerusalem stone road, city limits to Booth, \$80,000.

Toledo, O.—River Rd. is to be reconstructed with concrete. Bonds will be issued to defray expenses.

Urbana, O.—Sealed bids will be received for street improvement bond

amounting to \$22,000, until 7 o'clock P. M., Aug. 15.

Urbana, Ohio.—At a special meeting of City Council two ordinances were passed by unanimous vote to borrow \$38,500 in order to have money on hand to pay the contractor's estimates as they fall due for paving Miami St.

Urbana, O.—The city will borrow \$38,500 to take care of the paving of Miami St.

Youngstown, Ohio.—County Commissioners are planning to repave the Mahoning Ave. Viaduct, if the railway company build a double track across the viaduct an additional walk will be built on the south side of the bridge.

Roseburg, Ore.—Nearly 4 miles of roadway is to be repaired by the placing of 7,000 yds. of gravel on the Pass Creek Canyon road.

Chester, Pa.—The paving of Edgmont Ave. is under consideration.

Penbrook, Pa.—An ordinance has been passed providing for the paving of Main St. for a distance of 1,700 ft. Borough engineer has been ordered to make plans and specifications for the work.

Pittsburg, Pa.—County Commissioners and representatives of the Pittsburg & Lake Erie Railroad Co., the Pennsylvania Railroad Co., and the Pittsburg Railways Co. are planning the improvement of roadway from East Carson St. to Hays Borough.

Wilkes-Barre, Pa.—Ruddle St. from Hazel to terminus, Walker St. between Horton and Division Sts., Solomon St. between Hazel St. and the city line, are to be paved, graded and curbed. Sheet asphalt is to be used on Hazel and Walker St. and vitrified brick on Solomon St.

Rumford, R. I.—The Town Council has voted to accept Pavilion Ave., and it will be laid out and a grade established; map will be ready soon.

Watch Hill, R. I.—\$1,500 has been appropriated for improvement of walks and docks.

Sumter, S. C.—West Liberty St. is to be paved to the city limits.

Athens, Tenn.—November 7th citizens will vote on a bond issue amounting to \$250,000 for building of pike roads in McMinn County.

Knoxville, Tenn.—Broadway is to be resurfaced from Central Ave. to the city limits with asphaltic-concrete mixture.

Knoxville, Tenn.—An appropriation of \$2,000 for improvements on the Goddard and Rule road near Shook's has been voted.

Knoxville, Tenn.—Approximately \$4,000 is to be spent upon repaving Broadway.

Maryville, Tenn.—The Mercantile Trust Co., St. Louis, Mo., have purchased pike bonds amounting to \$200,000.

Nashville, Tenn.—The following named streets are to be repaved: Russell St., bitulithic; 12th or 16th Ave., bitulithic; 8th Ave., wood block; 3d Ave., between L. & N. R. R. and Franklin St., wood block; approach to Broadway viaduct, between 11th and 12th Aves., wood block; Cedar St., between 12th and 19th Aves., wood block; Vanderbilt pl., from Enid pl. to 31st Ave., wood block; Dixie pl., from 21st Ave. to 25th Ave., wood block. Service pipes must be put in, curbs and gutters laid. Manfield Ave., Gallatin Rd. to McFerrin Ave., wood block; Stratton Ave., Gallatin Rd. to 16th St., wood block. Service pipes, sidewalks and curbs required. Boscobel St., 17th to 19th Sts., wood block. Russell St., 16th to 19th Sts., wood block. Service pipes, gas main, water main, curbs and sidewalks required.

Beaumont, Tex.—The road to Jasper north of Collier's ferry in Orange County and a wagon bridge on the road are to be repaired, \$1,500 having been appropriated for the purpose.

Corpus Christi, Tex.—A bond issue amounting to \$150,000 has been authorized, for the purpose of completing street paving.

Fort Worth, Tex.—Grainger St., from Rosedale St. to Magnolia Ave., is to be paved.

San Diego, Tex.—Bonds amounting to \$100,000 will be issued for good roads through Duval County.

Ogden, Utah.—23rd St. is to be paved with concrete from Wall to Washington Aves., and Lincoln Ave. from 24th St. to Ogden River.

Berkley, Va.—Berkley Ave. is to be paved from Main St. to Seventh St. with asphalt.

Lynchburg, Va.—City is to repave Harrison St. between 8th and 11th; Tulip

St. between Buena Vista and Oak Sts.; Bedford Ave. between Rivermont Ave. and Dinwiddie St.

Norfolk, Va.—An outlet for the truckers will be provided by smooth paving Washington Ave., as far as Chapel St., at a cost of \$10,536, and improving Chapel St. from Washington Ave. to the Norfolk & Western crossing, at a cost of \$8,000. Other improvements as follows: Berkeley Ave., from Main St. to the cemetery, sheet asphalt, \$12,535; Bowden's Ferry Rd., 27th to 28th St., sheet asphalt, \$1,624; Claremont St., Redgate to Westover, curb and gutter, \$210; 37th St., Powhatan to Kenova, sewerage, \$962.50; 25th St., Bowden's Ferry Rd. to western end, sewerage, \$1,410; 46th St., 500 ft. from Myers Ave., \$910; sidewalks adjacent to public schools, \$549; Yarmouth St., York St. to bridge, \$4,682; 41st St., sewerage, \$1,895; Maury pl., west of Colley Ave., curb and gutter, \$1,128; Scott St., Granby to Monticello Ave., \$500; May Ave. through Jackson Park and construction of a bridge at this point, granite block, \$3,724; 22d St., granite block, \$5,757; Landing St., Highland to Brambleton, sidewalk adjacent to public school, \$340; two public lavatories or comfort stations, one at Commercial Pl. and one at Church and Queen Sts., \$5,000; 43d St., sewerage, \$367; 40th St., sewerage, \$600; 22d St., Colonial to Granby, granite block, \$13,397.50; Chapel St., Norfolk & Western to present paving, \$8,000; continuing Newton's Creek drain, \$10,000; Washington Ave., Church to Chapel, paving, \$10,527; improvement of Smith's Creek, Granby to Duke, \$10,000; Mason Ave., granite block, \$3,143; Hutchings la., second hand granite block, \$279; Llewellyn Ave., Duncan to 10th, sheet asphalt, \$2,405; Magazine la., Queen to Olney Rd., granite block and sewerage, \$2,878; Allegheny St., Louisa to Bath, and Louisa, Allegheny to Chesterfield, second hand granite block, \$6,500; St. Paul St., granite block, \$300.

Portsmouth, Va.—At an outlay of \$5,000 the Commission of Roads and Bridges of Norfolk county is to surface Ingleside road and rebuild Ingleside bridge.

Richmond, Va.—The construction of an improved highway between Richmond and Petersburg is contemplated.

Belpre, W. Va.—A sum of \$350 is needed to purchase oil for the principal streets, Blennerhassett Ave., Walnut and Main Sts.

Charlestown, W. Va.—Property owners on Washington St. and Lee St. have petitioned city manager to resurface both streets with brick.

Parkersburg, W. Va.—Cummins, Prudden & Co., Toledo, O., have purchased \$100,000 Lubeck district permanent road improvement bonds.

Spokane, Wash.—The County Commissioners have voted to immediately rebuild the Walkiki road for one mile from the north city limits at Wall St. to the brow of hill. The remainder of the road will be rolled with heavy rollers.

Janesville, Wis.—The following streets are to be oiled: Lincoln, Wisconsin, Pleasant, East High, North First, from East St. to Wisconsin, and on North Main St.

Milwaukee, Wis.—An ordinance has been passed providing for the issue of street improving bonds amounting to \$480,000.

BIDS RECEIVED AND CONTRACTS AWARDED.

(*Indicates contracts awarded.)

Fort Smith, Ark.—Kaw Paving Co., for paving in Dist. No. 11, at 90c., brick, and 93c., macadam.

Los Angeles, Cal.—Rogers Bros. Co., for work of Road District improvement No. 55, at \$15,900.

Sacramento, Cal.—Bids received for construction reinforced concrete bridge one mile east of Camarillo, as follows: Hunter Bros., Los Angeles, at \$1,648. *A. C. McLean Construction Co., of San Francisco, for 7½ miles of road in Placer county, between Roseville and Penryn, at \$36,224.80. *Elsimore & Jacobs, of Eureka, will construct a unit 4 3-10 miles between Loleta and Beatrice, in Humboldt county, for \$23,080.

Bridgeport, Conn.—The Burns Co., for grading and coping grounds around new High school building, at \$7,859.50.

Winsted, Conn.—Bids received for improving Main St., west, as follows: Hasam Paving Co., \$10,462.84 (without guarantee); \$10,642.60, (with guaran-

tee); Holly & Mascetti, concrete, with guarantee, \$12,087; John DeMichiel, reinforced concrete, \$16,334, bituminous macadam, 3-in., \$14,231; Warren Bros. Co., Warrenite, \$9,275.44; Union Paving Co., 3-in. sheet asphalt, over old macadam, \$10,714; Connecticut-Rhode Island Co., 3-in., with 2-year guarantee, amasite, \$10,765.42.

Miami, Fla.—Bids received for paving 55,000 sq. yds. asphalt on a concrete foundation, as follows: John M. Morgan & Co., Attala, Ala., at \$131,000.

Atlanta, Ga.—Bids received by C. M. Holland, Purchasing Agent, for paving as follows: *Dysard Construction Co., Atlanta, Ga., East Paces Ferry, \$1.30 per sq. yd., asphalt 1-2-4, 6 inches on sides, 7 inches in center; also Zoo Drive—total, \$15,600. *Pittman Construction Co., Atlanta, Ga., Lakewood St., at \$1.43 per sq. yd.; asphalt 1-2-4, 6 inches on side, 8 inches in center—total, \$18,590. Also Mason and Turner and Hightower Sts., \$1.48 per sq. yd.; asphalt, 1-2-4, 6 inches on sides, 8 inches in center—total, \$65,120.

Edwardsville, Ill.—*Albert Fahrig, for the construction of the improvement of the Alton-Springfield Improvement District, as follows: Brick pavement, complete, \$1.90 per sq. yd.; concrete pavement, complete, \$1.45 per sq. yd.; reinforced concrete pavement, complete, \$1.51 per sq. yd.; stone curbing, in place, 53 cts. per lin. ft.; artificial combination curb and gutter, complete, 60 cts. per lin. ft.; sewer, complete, 8-in. sewer pipe 40 cts. per lin. ft.; 12-in. sewer pipe, 90 cts. per lin. ft.; 15-in. sewer pipe, \$1.15 per lin. ft.; broom grouted combination curb and gutter complete, 42 cts. per lin. ft.; man-holes, \$30 each; catch basins, \$14 each. Total \$25,528.88. Other bidders: G. R. Hyten, \$25,630.69, and Dunlop-Dippold Co., \$26,493.18. Engineer's estimate, \$26,942.28.

Fairfield, Ill.—Bids received for paving 19,478 sq. yds. brick pavement on a 5-in. concrete foundation, \$3,547 cu. yds. excavation, as follows: *J. E. & B. S. Crane, Murfreesborough, at \$1.90 per sq. yd., total, \$32,008.20; Prossen & Halliday, Cairo, at \$1.93 per sq. yd.; Dippold & Dunlap, Edwardsville, \$1.95½ per sq. yd., total, \$38,079.49; Hoffman Townsend, Mt. Carmel, at \$2 per sq. yd., total \$38,956.

Aurora, Ind.—*Jacob E. Berg, Jackson, for constructing gravel road in Adams Twp., at \$13,289.54.

Bloomington, Ind.—For the improvement of N. College Ave. and N. Walnut St., at \$36,155.26. *A. K. Helton, N. Walnut St. is to be paved with bituminous concrete from 7th to 13th St. and with brick from 13th to 17th St. N. College Ave. from 7th to 14th St. is to be paved with bituminous concrete.

Brookville, Ind.—*Putmann & Carr, for building the Schwertfeger Rd. in Ray Twp., Franklin County, for \$11,770, and a bond issue of \$12,620 to cover total cost has been authorized.

Columbus, Ind.—*The F. H. Kent Construction Co. of Shelbyville, for building the Marr concrete road and a bridge, at \$79,801.

Indianapolis, Ind.—*James Brannock of Lowell, Ind., for construction of a gravel road for Center Twp., Lake Co., at \$4,300.

Indianapolis, Ind.—*R. C. Bennett & Co. bid \$8,797 for improving Keystone Ave., between 34th and 38th Sts., and School St., between 28th and 38th Sts.

North Vernon, Ind.—Bids received for paving streets as follows: Bergen, Jeffries Co., Franklin, Ind., brick with sand cushion, \$1.16 per sq. yd., 4-in. concrete base, 65c., excavation, 30c. per cu. yd., limestone curb, 62c.; James De Golger, Seymour, Ind., brick with sand cushion, \$1.35 per sq. yd., 4-in. concrete base, 45c., limestone curb, 40c., excavation, 35c. per cu. yd., J. M. Bush & Co., Seymour, Ind., brick with sand cushion, \$1.84½ per sq. yd., excavation, 40c. per cu. yd., limestone curb, 40c.

Peru, Ind.—Bids received for construction of the Davis Rd.: Ray N. Sullivan, at \$1,100; *John L. Miller, Miami, at \$1,919; *Ray N. Sullivan, Pike Creek Twp., for construction of the Carpenter Rd., at \$45,900. Other bidder: J. Burke, Peru, at \$54,887.

Plainfield, Ind.—*Geo. T. Miller, Lebanon, for paving about one mile brick street at \$29,000.

South Bend, Ind.—Bids received for gravel pavement in St. Joseph County: H. L. Short, La Crosse, Ind.

South Bend, Ind.—*Homer Short, for construction Lakeville road, in Union Township, at \$17,499. Other bidder: Borden Laurer, at \$17,750.